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ISSUE 145 DEC 2013 / JAN 2014

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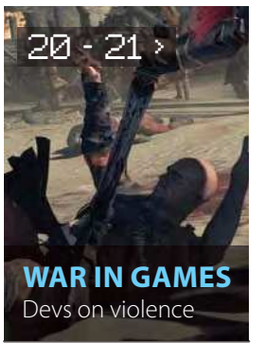
INSIDE SUPERCELL
The $3bn firm tells Develop why *Clash of Clans* is only the beginning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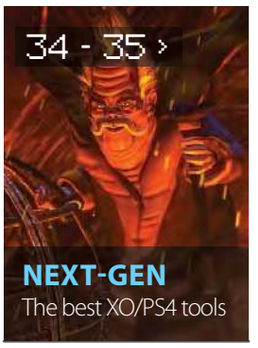
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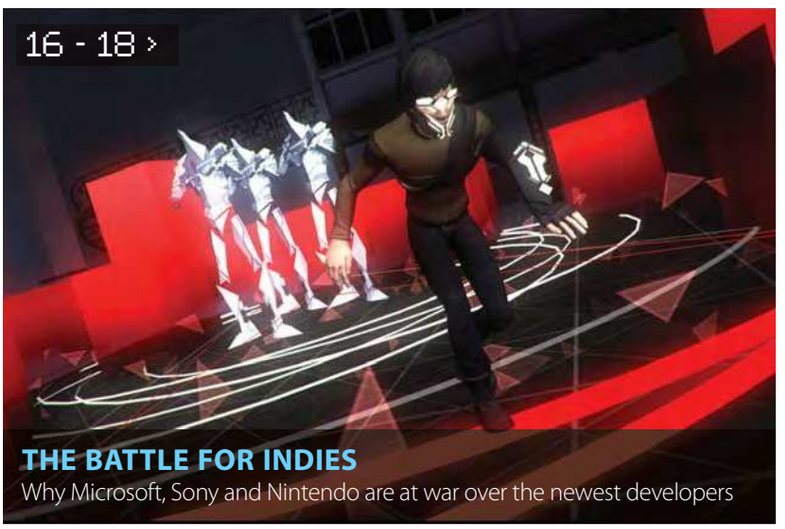
The best XO/PS4 tools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30 UNDER 30
2013's rising stars of development

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EDITORIAL

THE NEXT BIG THING

THE PHRASE "FROM humble beginnings" may sound like a cliché, but in the case of many games industry success stories, it's apt.

Just take a look at our cover star Supercell. Four years ago, this was a brand new studio working on an MMO that it would ultimately cancel. And while most companies would deem cancellations as a cause for concern, a loss of time, money and resources, the Finnish outlet celebrates the death of any project with a bottle of champagne.

For any studio, cancelling your first project is a dangerous start, adding to the pressure to produce something that can pay the bills. But Supercell's subsequent release of *Clash of Clans* generated enough revenue and interest that it in October 2013, Japanese giants Softbank and GungHo invested a whopping $1.5bn in a majority stake in the studio.

The investment made for interesting headlines, but the story behind the studio's origins – and what its long-term ambitions are – is just as interesting, as you can discover on page 12.

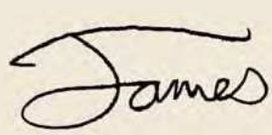
And Supercell's success offers a glimpse at the potential this industry holds for new companies. In a market as fast-changing and increasingly diverse as video games, you can never tell who or what will be the next big thing.

It could be any one of the 100 European Start-ups featured in the latest *Develop 100*, which you can find out more about on page five. Or one of the independent studios that Microsoft, Sony and Nintendo are so desperately fighting to win over, tailoring their next generation consoles and digital marketplaces to offer them new avenues to reach gamers. Want examples? Turn to page 16.

The next major success story might not even be an entire company, but rather a single individual with the ideas and determination to stand out, such as the candidates from our annual and ever-popular 30 Under 30, which starts on page 27.

And since this is the January issue, I'll skip the Merry Christmas and wish you all a Happy New Year. Who knows what will humbly begin in 2014?

James Batchelor
james.batchelor@intentmedia.co.uk



‘Visas more vital than tax breaks’

International arrivals
07:10 Mumbai IB4709 Bags arriving
08:45 New York IB4690 Bags arriving
09:00 Barcelona IB7450 Bags arriving
09:00 Newark IB4626 Cancelled
09:00 Munich BA947 Bags arriving
09:15 Oslo BA761 Bags arriving
09:15 Washington IB4654 Bags arriving
09:15 Baltimore IB4648 Bags arriving
09:15 Copenhagen BA811 Bags arriving
09:25 New York IB4612 Expected 13:20
09:30 Denver IB4644 Expected 10:47
09:35 Chennai BA036 Arrived 09:24

Veteran developers urge Government to allow more talent into the UK to offset the loss of promising new devs to other countries

by James Batchelor

UK DEVELOPERS ARE calling for the Government to offer more visas that will enable them to recruit more talent from abroad.

Speaking at a *Develop* roundtable, leading Cambridge studios claimed that this would create a more “level playing field”, countering the loss of skilled developers to other hubs around the world.

“Recruiting people outside the EU is really hard because there are blocks against it,” said Games Eden chair Jeremy Cooke (*left, middle*). “And yet we’ve had a number of people emigrating and lured away by Canadian and US companies.

“At the very least we should be able to recruit the same number of people that have gone to work overseas.”

Jagex CEO Mark Gerhard (*left*) added: “The Government doesn’t understand that smart people are employable anywhere in the world. Not only do we need to retain them, but we also need the reciprocity of being able to bring more talent in. The Home Office gives us about 75 visas a year, but even then we’re short.”

Some devs believe visas are more important to growth than tax breaks.

“Tax breaks will make a big difference, but visas would really help as well,” said Frontier founder David Braben (*far left*).

> ***“We should be able to recruit the same number of people that emigrate.”***
>
> Jeremy Cooke

Gerhard agreed: “With tax breaks, your business can be more competitive but give us visas, allow us to get the talent and it will be a fair playing field.

“The internet has made the world borderless but the Government still thinks in terms of borders.”

Indie developer Jonathan Skuse added: “There’s no benefit to keeping highly skilled, highly paid people out of the UK.” ■

GET YOUR QUIZ ON

The industry’s favourite clash of minds returns in January – but have you booked your place yet?

by Craig Chapple

THE DEVELOP QUIZ returns on January 29th for another battle of wits between the UK’s brainiest developers.

Returning to the Sway Bar in London, teams of five will compete for the highly-coveted Develop Quiz Trophy and bragging rights as the country’s smartest games studio.

Tables are still available – and the quiz is open to studios, tech and services companies alike. If you’re an indie, why not put together an all-star team and join in on what is one of the most fun nights in the UK games industry calendar.

The quiz is renowned for its quirky questions – including themed rounds such as who’s behind Sebastian Coe and computer game toilets – as well as its great atmosphere and fantastic prizes. And did we mention the evening includes also a free bar and dinner? That’s probably important.

If you think you have what it takes to match wits with the most intelligent developers in the UK industry from studios such as Space Ape, Creative Assembly and First Touch Games, book your place now to avoid disappointment.

The entry fee is £249, which gets you a table for your team of five plus the aforementioned grog and grub.

To book your place, contact **Kathryn.Humphrey@intentmedia.co.uk.**

There are also sponsorship opportunities – for more information, please contact Alex Boucher on 01992 535647 or email him via **Alex.Boucher@intentmedia.co.uk.** ■

InnoGames:
We still feel like a start-up

Tribal Wars firm says ten years of success hasn't changed its ethos

by James Batchelor

ONLINE FREE-TO-PLAY GAMES giant InnoGames says that despite the growth afforded by its first hit *Tribal Wars*, the company still feels like a start-up.

The firm has just announced *Tribal Wars 2* and InnoGames founder Michael Zillmer told *Develop* the company behind it is both similar and very different to the one that produced the ten-year-old original.

"The first *Tribal Wars* was made by us three founders in 2003," he said.

"Fast forward ten years and we have about 280 employees at our headquarters in Hamburg, and our reach has expanded from Germany and its surrounding countries to 110m registered players worldwide.

"It gives our company a totally different vibe from those early days, but what we work hard to keep the same is the start-up feeling we have. We surround ourselves with people who continue the tradition we started with: passionately making games from a player's perspective.

"Of course, now when we make games, we can't just think about what would be super awesome, but we also have to think about how to pay the bills with it."

Europe's hottest start-ups revealed in Develop 100

We profile the most promising new games companies popping up across the continent.

by Craig Chapple

WANT TO KNOW the most promising games start-ups in Europe? The new *Develop 100* is out now through your browser and on iPad, completely free.

We've profiled 100 new games companies formed since 2011, from games development studios to tech companies and service providers – all the sectors that help keep the games industry ticking over.

Inside we feature 64 companies from the continent, with over 30 housed in the UK.

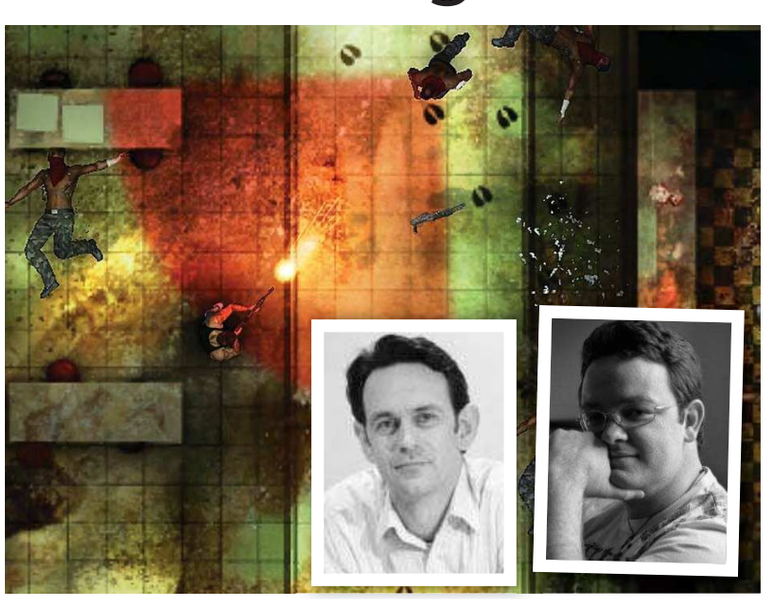
The Nordic region features extensively with 25 games businesses making our list. Finland has proven to be one of the biggest hotbeds in this area with 13 companies making our list.

While many of these start-ups may not be well known now, any one of them could be the next big thing in mobile, console, PC or tech.

Develop 100 is published in association with UKIE.

www.develop100.com

APB coming to mobiles this month



Reloaded Productions reveals surprise iOS spin-off

by James Batchelor

A MOBILE TIE-IN to UK-developed MMO *APB Reloaded* will be coming to iOS this month – and *Develop* has the first details.

Entitled APB Retribution, the top-down tactical shooter has been developed by *APB* studio Reloaded Productions and Edinburgh-based Blazing Griffin, which opened doors in 2011 in the same street as Reloaded.

The project has taken six months to develop, with plans for the spin-off in the works since Blazing Griffin pitched the idea in March 2013. Blazing Griffin has managed to nearly double its team since development began.

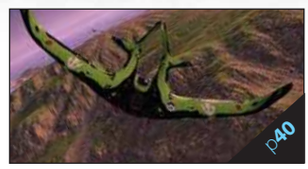
APB Retribution realises Reloaded's long-term plan to expand beyond the main MMO, which was originally developed by Realtime Worlds.

"Working alongside Blazing Griffin has allowed us to explore a different aspect of the *APB* universe, whilst still concentrating on content creation for *APB Reloaded*," said Reloaded MD Michael Boniface (*far left*). "This would not have been possible without this co-development experience."

Blazing Griffin MD Peter van der Watt (*left*) added: "We've gathered insight into how a larger studio and brand operate. Due to the nature of the collaboration and level of creative freedom, we've been able to contribute in a more substantial way than usual."

APB Retribution is due for release on iOS in December 2013. ■

develop iPad | Videos are available within the iPad Edition of **Develop** on iTunes and the Browser-based Digital Edition, which can be accessed at **develop-online.net**



THIS MONTH: An introduction to FMOD Studio **Marmalade Play's Blur Overdrive** Graphine demonstrates its texture streaming Granite SDK

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DEVELOP DIARY

Your complete games development event calendar for the months ahead

DICE SUMMIT 2014
February 4th to 6th
Las Vegas, USA
www.dicesummit.org

In 2013, DICE was all about VR and the convergence of filmmakers and other media with games.

This year the conference has set itself the task of appraising the golden age of gaming.

Speaker announced so far include Funomena co-founder Robin Hunicke, EA founder Trip Hawkins, Unity CEO David Helgason and former VP of Microsoft Studios Ed Fries.

A day of networking, golf and go-karting precedes the conference.

DECEMBER 2013

GAME CONNECTION EUROPE 2013
December 3rd to 5th
Paris, France
www.game-connection.com

NEXT LEVEL CONFERENCE 2013
December 6th to 7th
Dortmund, Germany
www.nextlevel-conference.org

GAME QA & LOCALISATION 2013
December 10th to 11th
San Francisco, USA
sanfran.qalocforum.com

JANUARY 2014

STEAM DEV DAYS 2014
January 15th to 16th
Seattle, USA
www.steamdevdays.com

MOBILE GAMES FORUM 2014
January 22nd
London, UK
www.mobilegamesforum.co.uk

TAIPEI GAME SHOW 2014
January 23rd to 27th
Taipei, Taiwan
tgs.tca.org.tw

DEVELOP QUIZ
January 29th
London, UK
www.develop-online.net/events

FEBRUARY 2014

DICE SUMMIT 2014
February 4th to 6th
Las Vegas, USA
www.dicesummit.org

ICE TOTALLY GAMING 2014
February 4th to 6th
London, UK
www.icetotallygaming.com

APPS WORLD NORTH AMERICA 2014
February 4th to 6th
San Francisco, USA
www.apps-world.net/northamerica

ANIMEX FESTIVAL 2014
February 10th to 14th
Middlesbrough, UK
animex.tees.ac.uk

CASUAL CONNECT EUROPE 2014
February 11th to 13th
Amsterdam, Netherlands
europe.casualconnect.org

INDIECADE EAST 2014
February 14th to 16th
New York, USA
www.indiecade.com/east

MARCH 2014

GDC 2014
March 19th to 21st
San Francisco, USA
www.gdconf.com

THE MONTHS AHEAD

A look at what December and January have in store for the industry and beyond

DECEMBER 6TH
Gran Turismo 6
By the time you're reading this *GT6* will practically be out of the garage. Right, Kaz?

DECEMBER 13TH
The Desolation of Smaug
Martin Freeman does battle with orcs, spiders and a dragon voiced by Mr Cumberbatch.

JANUARY 3RD
Mandela
A chronicle of Nelson Mandela's life. Fresh from robot-smashing, Idris Elba take this testing role.

JANUARY 15TH
Steam Dev Days
Valve's first ever developer event will give attendees an early look at SteamOS and its VR tech.

DECEMBER 7TH
Civil Aviation Day
An excuse to break open a copy of *Microsoft Flight Sim* and virtual flight school, cadet.

DECEMBER 20TH
Anchorman 2
Ron Burgundy and his news team (re)assemble for this long-awaited comedy sequel.

JANUARY 7TH
CES 2014
From 4K screens to wearable tech, electronics makers show off their new wares in Vegas.

JANUARY 22ND
Mobile Games Forum 2014
The 11th MGF aims to show you how to keep up with the rapidly shifting mobile space.

DECEMBER 10TH
Game QA & Localization
A dedicated networking event for the QA and localisation community in San Francisco.

DECEMBER 25TH
Christmas Day
Whether you receive a new console or another pair of paisley socks, put your feet up.

JANUARY 12TH
Pop Art Design
Gaga's *Artpop* not what you were expecting? Be inspired at the Barbican's Pop Art exhibit.

JANUARY 29TH
Develop Quiz
From obscure gaming trivia to fruit shaped like North Korean leaders, join the fun.

To find out more about Deep Silver's publishing, marketing and promotional services, go to **www.deepsilver.com**

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//COMMENT: BUSINESS

Getting the message

Nick Gibson explores the potential of video games developed for mobile messaging platforms

Mobile messaging services, such as Tango (above), are poised to become a multibillion dollar market, says Nick Gibson

MOBILE MESSAGING WAS one of the huge social network trends of 2013, riding high on a combination of explosive Facebook-like viral propagation, strong credentials as a free but more functional alternative to SMS and, increasingly, close integration with add-on services such as games.

The leading networks, such as Kakao, are now generating hundreds of millions of dollars per annum in games revenues, spawning the latest hypergrowth market and all its accompanying hype. This month I want to explore what opportunities this booming market actually present to games developers.

Mobile messaging is simply the latest evolution of instant messaging services that began life on desktops in the '90s. While usage fell away during the '00s in the West, in Asia companies such as Tencent built out the concept, adding games, music and shopping functionality. Tencent's QQ messaging platform became a social network in itself, amassing some 800m active users.

The most commercially successful mobile messaging platforms such as WeChat, Kakao and Line appear to be striving towards a similar goal with messaging at the heart of a broad set of communication, commerce and entertainment functionality.

Although these three platforms' userbases are predominantly Asian, all are growing outside of Asia, often exploding in popularity in specific countries once they reach a critical momentum tipping point – as has happened in Spain with Line. However, there are also numerous Western platforms that have amassed vast user bases outside of Asia.

USA-based WhatsApp and Canada-based Tango boast 500m users between them, with the former now topping the free app charts in many European countries. And let's not forget Facebook, which has 870m+ monthly mobile users, has launched a custom messaging app.

A MARKET IN WAITING

However, both Facebook's mobile messaging app and WhatsApp have little or no support for fully integrated games, relying on the appeal of their communication service alone to drive revenues (via advertising and, less convincingly, an annual charge respectively).

The game-phobia of these two Western market leaders contrasts starkly with the sophistication of many of the other messaging services such as Tango. Platforms like Tango make use of users' connectivity to offer synchronous and asynchronous multiplayer gaming, player challenges, leaderboards, avatar and chat customisation and gifting – all of which open the door to a range of games design and monetisation opportunities.

Competition is forcing the Asian services in particular to develop at an incredibly rapid pace as they continually seek to differentiate themselves and add new revenue opportunities. This should open the door to developers but there are challenges on these emerging platforms.

Firstly, all games on the major platforms are strictly curated and chosen by hand. This heavily controlled approach became outmoded years ago in Western mobile gaming because it stifled innovation. This may well have to change if these platforms wish to maintain any long-term international momentum in future.

Developers may also need more of an incentive than a sub-50 per cent gross revenue share to join the platform, although this is little different to dealing with a mobile publisher. And there is a cultural question about whether messaging games are as acceptable in the West as they are in Asia. The early figures from Tango and others suggest this may not be an issue.

There is a degree of déjà vu to the mobile messaging games market. It shares many similarities to Facebook gaming, a market that evolved as a later stage of the social network's development (and despite its founder's reputed indifference towards gaming) but became a lucrative adjunct to its core communication service. With rapidly growing take up and usage often taking place within concentrated social (demographic and geographic) groupings in the West, mobile messaging games is, in our view, also a multibillion dollar market in waiting.

Whether it achieves this potential and, more relevantly, whether this offers developers a solid commercial opportunity, are different matters. Despite the huge growth rates and the more international nature of the Asian mobile platforms, we think that opportunities will remain limited as long as the Western market leaders remain so games-phobic and closed.

It is unlikely that this status quo can last, however, and when it changes, these platforms could deliver access to hundreds of millions of users. Until then, keep your powder dry.

Nick Gibson is a director at Games Investor Consulting, which provides commercial check-ups, strategy and data to games, media and finance companies.
www.gamesinvestor.com

//COMMENT: INDIE

Dealing with second album syndrome

Debbie Bestwick shares expert tips on how indies can form a sustainable business after their first hit

2013 WILL UNDOUBTEDLY go down as "the year of the indie". We've witnessed a raft of highly original, innovative and quirky titles that have captured the collective consciousness of modern gamers.

Sometimes created by a small team, often just by an individual, indie games are labours of love that elevate their creators to the status of development gods. But can lightning strike twice?

The difficult 'second album syndrome' applies equally to games development. The trick is to repeat the successes of your first title and learn from the many mistakes you made along the way.

Developers need to understand their business model and try to plan a rolling strategy that extends twelve months into the future. The world of gaming moves so quickly that planning ahead any further than this is a waste – unless you have a crystal ball and can see the future, in which case you'll clean up anyway. Remember the plan should be understood and agreed by all those you work alongside. It's critical the whole team shares the same vision and drive.

Think working out how much your game will cost to develop is easy? Be warned: calculating how long a game will take to develop, multiplying that by each team member's monthly salary and then adding a small contingency will only lead to a troubled future. When planning a new project don't forget to factor in those not-so hidden costs too. Accountant and legal fees don't come cheap, insurance and taxes take their toll and equipment, tools and office space all push your budget along an ever upwards trajectory.

It could be that you've struck a publishing deal or perhaps you've enlisted the help of a financial institution or investor. Either way, only borrow what you absolutely need. Do not weigh a project down with unnecessary finance because you think you need or want something out of the ordinary. If you created your last game without the need for extravagance then you can do the same with your second. If you genuinely want to grow your business for the long term, it needs to be sustainable. It is vital that you reinvest your profits if you want to reach financial independence for yourself and your team.

COVERING YOUR BASES

You use the right side of your brain because you're a free-thinking creative genius. Spreadsheets, reports, sales data – they're a bore, right? Well, yes. But make sure you have someone who relishes all that stuff. Having someone commercially minded in a business development role is vital. Let them handle all the mundane stuff hour by hour. It'll free up your time and thinking and they can fill you in on the bottom line detail rather than you struggling with that side of the business you're really not into.

Your next project may need a larger team. That's great; you're moving on up. But ask yourself one simple question before taking an individual on, "Do they add value to the business?". Be specific in what you're looking for and moreover, what skills you need. If you can fill a role with someone who has a primary skill you need but a secondary one that could come in handy then snap them up. If they are simply bringing skills your team already has then they're dead wood and your business will end up carrying them.

It's likely that you're self-publishing your game on one of the many digital stores out there, be it Apple, Google, Sony, Microsoft or Steam – others are available, you know who they are. Make sure you're on first-name terms with your account managers; be nice, they're there to help. It's likely these stores contain far more product than your average High Street retailer and you know how difficult it is to get prominent shelf space in traditional outlets.

Work with your account managers on how you can get maximum exposure for your game in the limited electronic storefront. Have art banners ready prepared and keep abreast of deals and offers being run that you can get involved with. It's not always about week one sales. Careful sales planning can bring in significant extra revenue months after a game's initial release.

If you want finanical independence for your studio, you must make sure you have someone willing to tackle the spreadsheets and sales reports, says Bestwick

Debbie Bestwick is one of the founding members of Team17. She pioneered the company's leap into digital publishing, and was promoted to CEO in 2009. Find her on Twitter: **@djbteamsters**
www.team17.com

//EXTRA CONTENT ONLINE

"It's not all about the coding. We were running under the name Zero Dependency for a couple of years, but it's only in the last couple of months that we took steps to register the company."

Andy Esser, Zero Dependency

"HTML5 offers true cross-platform development that allows you to build once and deploy to desktop, tablet and mobile. It is an understandably attractive prospect, but there remain some distinctive challenges."

Brian McHarg, Chunk

"PixieCon 13 was extraordinarily hard work, especially since Pixie Software is a small studio with limited financial and human resources. In hindsight, I realise that I might have been a bit overambitious"

Stephen Caruana, Pixie Software

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

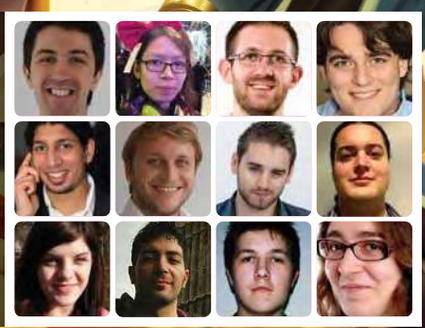
Violence in games p20

App attack!

A look at Supercell's origins and how it became a multibillion-dollar sensation, p12

The battle for indies p16

30 Under 30: Game dev stars of tomorrow p27



Supercell's mobile billions

In just three years, this young Finnish studio has gone from cancelling a browser MMO to one of mobile's biggest success stories. CEO Ilkka Paananen tells **Craig Chapple** how it happened

Ilkka Paananen (above) is CEO of Finnish developer Supercell (main), which is now valued at close to $3bn just three years after it was formed

"THE DREAM IS to become a global games company," says an ambitious Ilkka Paananen, just three years after the formation of the Finnish studio.

It may technically just be a start-up, but this Helsinki developer has quickly become one of the biggest games studios in the world thanks to its huge success from mobile and tablet games *Clash of Clans* and *Hay Day*.

The two titles frequently top the App Store charts, at one point making the firm $2.4m a day. According to App Annie, during November last year the studio made more revenue from its two games than any other iOS developer, including EA and its 969 titles.

Its success isn't just confined to Europe either, a quick look on the App Store will show both its two titles have become a worldwide sensation, topping the charts as far as the US, Australia and Japan.

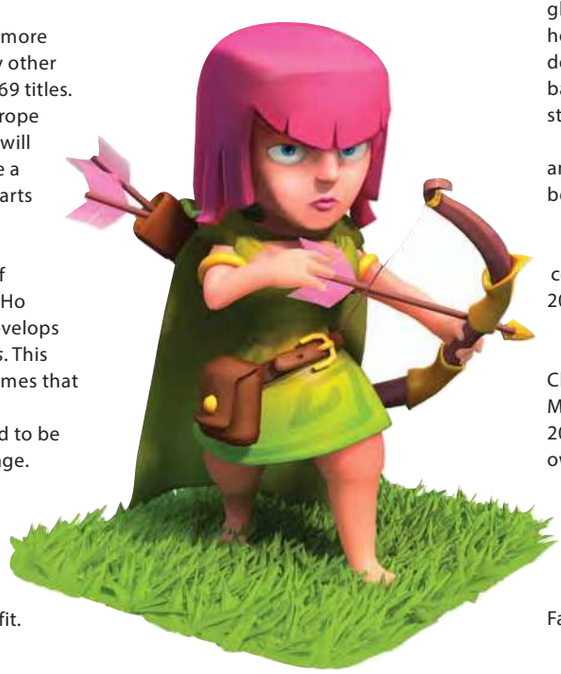
This near-global reach didn't go unnoticed, attracting the attention of telecomms giant Softbank and GungHo Entertainment, the latter of which develops Japanese mobile hit *Puzzle & Dragons*. This match-three title is one of the few games that has been able to meet the success of Supercell's own, and was recently said to be making around $4.9m a day on average.

After a close partnership between Supercell and GungHo to cross-promote their titles, the publisher and its parent company Softbank splashed out $1.5bn to buy a 51 per cent stake in the Finnish outfit.

Three years after it was born, Supercell is now worth $3 billion.

"The opportunity that has us excited I guess is this dream to become a truly global games company," Paananen tells *Develop* of the young studio's lofty ambitions.

"Meaning that we would want to unite gamers all over the world to play the same game franchises. It's still very early days for us but *Clash of Clans* is showing some signs that maybe it could be this type of franchise. It's been number one in US, Europe, as high as number two in China and as high as number three in Japan."



He adds: "If you want to create history, that takes time and patience. Now obviously that we've been doing so well and the financial position of the company is so stable, then you do have all the time in the world to get there."

SMALL BEGINNINGS

The studio wasn't always set on creating a global company and a long-standing heritage however. Paananen freely admits when the developer's six founders originally set up back in 2010, they could not have envisaged striking such a chord with consumers.

"Of course we've always been ambitious and had big dreams, but still, this goes well beyond our dreams."

Supercell's entrepreneurial CEO has experience of setting up his own companies in the past, founding Sumea in 2000, which also worked on mobile games for feature phones.

The firm was later sold to Digital Chocolate in 2004, where Paananen stayed as MD of Europe and then president until early 2010. After leaving, he later opened up his own studio, Supercell.

The original plan was different from how it has made its name. It initially set out to create cross-platform titles for the browser, Facebook, mobile and tablet.

Its debut title was set to be a real-time Facebook MMO, called *Gunshine*, which it

would also port to mobile, with the same world accessible from any device.

But after 14 to 15 months of development, the studio abandoned the title, despite attracting half a million unique monthly users. It may have been a tough decision – but one that Paananen says the team has not looked back from since.

Gunshine appears not to be the only casualty of that decision. Paananen says in Autumn 2011 the company "basically killed everything we were working on" and put its sole focus onto tablet and mobile.

"We realised that by definition you really need to build the game from the ground up for mobile," he says. "The UI on the tablets and smartphones are so different from the mouse UI you have on desktop. We realised you can't match those together if you want to create the best possible experience on mobile.

"So therefore we decided that, okay, let's focus solely on tablet and mobile, and that's probably the best decision we've ever made."

CELEBRATING FAILURE

Unperturbed by the cancellations, the studio quickly set out on five new games, a few of which even launched in beta in Canada. The high quality bar and extensive use of performance indicators and metrics however meant a few of those titles didn't make it.

But Supercell has never been a company to greet failure with disappointment. In fact, the studio celebrates any game cancellation with a bottle of champagne.

And not keen to ever leave its staff in the dark on how its games are faring or why they have been canned, Paananen reveals a culture of transparency at the studio.

"So we distribute all the key performance indicators and metrics of every single game to everybody in the company. Every single person at the company gets them at the same time by these daily emails.

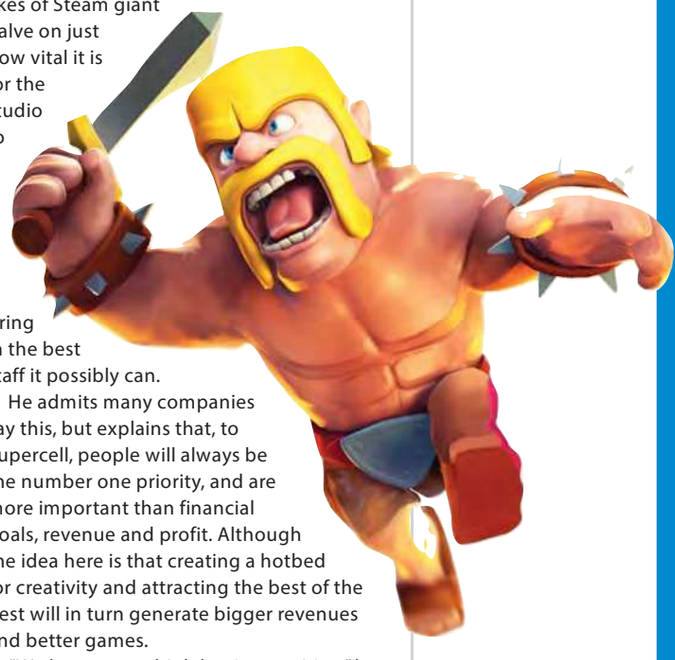
> ***"We decided to focus solely on tablet and mobile, and that's probably the best decision we have ever made."***
>
> Ilkka Paananen, Supercell

"Everybody can see what's the truth and what the game looks like, and everybody I guess realised that okay this (*Gunshine*) isn't really going anywhere and we need to do something different.

"Of course it always breaks your heart to throw something away that people have been working so hard on. But on the other hand I think people saw that, okay, there was no other way and I would almost say that some people probably were almost relieved and thought, okay let's try out something a bit different."

Another one of the key pillars Supercell is built upon is what makes the games happen – the people.

Through his chat with us, Paananen stresses the importance of the company's employees, echoing similar sentiments to the likes of Steam giant Valve on just how vital it is for the studio to bring in the best staff it possibly can.



The Supercell team (above) has steadily grown over the years, but each employee is given creative freedom within the studio's small teams

He admits many companies say this, but explains that, to Supercell, people will always be the number one priority, and are more important than financial goals, revenue and profit. Although the idea here is that creating a hotbed for creativity and attracting the best of the best will in turn generate bigger revenues and better games.

"We have a very high bar in recruiting," he explains. "So first of all, at Supercell we had a relatively large group of co-founders, six of us who founded the company. And since all

Perhaps not as widely known as Clash of Clans, Hay Day is still proving a cash cow for the developer

of those guys are quite senior and experienced in the local scene, that great group of people then helped us attract the next round, because they want to work with the best.

"So the idea behind Supercell is that you can get the best people but then just to stay out of there way and give them the creative freedom. Supercell is organised into small teams that we call cells. The idea is that these cells are small, but also very independent."

It's this cell structure that is the inspiration for the company's name, Supercell. Each team can be as small as five or six people, and Paananen says such a structure means everyone gets a chance to work on the game experience itself, which instills a sense of ownership and passion in each developer.

He adds that unlike larger firms, Supercell has done away with greenlight processes and doesn't use a 'designed by committee' style to games development that he says most talented devs hate at the big companies. Instead, the studio looks to give teams the creative freedom to make the titles they want.

"For the right kind of people it's a really fun environment. Teams are small, everybody has a large responsibility. That creates a lot more pressure I guess than you would have in a bigger organisation and it's a lot more fun."

THE NEXT NINTENDO

Lending itself to such a creative process and hiring in the strongest possible candidates, it's no surprise *Clash of Clans* and *Hay Day* have become huge hits across the globe.

But such is their success, Paananen says the studio can now plan for the long-term, and does not have to force new games to keep itself afloat, but instead wait for the right title that meets its particular and lofty standards.

> ***"We want to build something that people in 30 years will look back on and say that we did something great."***
>
> Ilkka Paananen, Supercell

When Paananen says his dream is to become a global games company to stand the test of time, he isn't taking it lightly. In fact, he has already set his sights on emulating one of the industry's most iconic companies.

"We want to build something truly great, something that people, in ten, 20, 30 years would look back and say that Supercell really did something great," states Paananen.

"Much like, for example, the way people feel about a company like Nintendo. A company that the players absolutely love for everything they do and everybody recognises the name. So if we want to build Supercell to the same space, the fact is it's going to take many, many years, tens of years. It takes time and it takes patience and it feels like we now have a good shot at building that kind of company because we have the resources, and we definitely have the time and patience."

If the success of *Clash of Clans* and *Hay Day* wasn't enough to propel Supercell to such heights, Softbank's and GungHo's $1.5bn purchase of a majority holding in the company should help it achieve these plans.

Paananen says Softbank, which made up 80 per cent of the purchasing fee, isn't like a typical investor, such as a VC, as the telecoms giant does not need to sell the shares down the line to make its money back.

He adds that partnering with a firm like Softbank is a dream come true, as it is prepared to be patient and plan for the long-term, and also allows Supercell to keep its independence.

"On top of that of course, Softbank has a very strong presence in the mid-eastern markets, especially in Japan, but also connections to Korea and China and so on," he says. "So we thought that would be a way to accelerate ourselves towards being a truly global games company."

Paananen is adamant that the deal will not affect how Supercell operates, and insists the agreement the Finnish studio's founders signed means they will retain complete control of the business.

PLAYING FOR THE LONG-TERM

With its future set and ambitious plans in motion, the team at Supercell has set its eyes on developing the next hit, although its CEO says it is just as important the studio continues working on *Hay Day* and *Clash of Clans* for the foreseeable future, similar to the longevity seen in the industry's biggest games like *World of Warcraft* and *League of Legends*.

"We need to make these games better. And then of course we are looking at expanding to other markets, so Korea is one of the next ones on our list and we have just got started in Japan, where we now have *Clash* also available on Android. We feel like there are so many more players who haven't played these games yet, so there's an opportunity there.

"We can still make these games so much better for our players by introducing new features, content and ways to play, and so on. So that's very much a first priority.

He adds: "At some point a new game will come out from us."

As for his own future, what awaits the CEO of one of the industry's biggest success stories in recent years?

"My future is absolutely with Supercell," he states assuredly. Having built one of the biggest studios in the world, Paananen still aims to achieve more, and belives he can do all of that at the house that built *Clash of Clans*.

Drawing inspiration from the success he's already had, and from that of Softbank founder Masayoshi Son, whom he says has a 300-year mission for his company, the sky is the limit for both Paananen and Supercell.

"I couldn't imagine any better. It's such a fantastic group of people. And you know, it's a growing market. It's still very early days for the mobile and tablet market by the way, I feel it's perhaps like the PC gaming market of the early '90s or something like that. So it's very, very early days, both for us as a company and the whole market in general.

"It's extremely difficult to imagine life without Supercell at the moment." ■

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The Battle for indies

SCEE's indies man Shahid Ahmad (top) says games such as Mike Bithell's Volume (main) can help convince consumers to buy a PS4, and Nintendo's Ed Valiente (above) says such indie titles can create a vibrant ecoysystem for a console's digital store

Top right: The next-gen consoles vying for indie attention and favour

With the full trio of next generation consoles now upon us, **Craig Chapple** asks how the indie revolution has changed the landscape forever

THE LAST GENERATION of consoles had many critics when it came to the treatment of small devs in the early years of the indie revolution.

Console manufacturers had never given such a spotlight to this sector before, but thanks to digital, they were able to open up their online marketplaces to accommodate an industry forever changed by smartphones.

The transition wasn't smooth though. Microsoft may have won plaudits for Xbox Live Arcade, but indies on all platforms were soon aggrieved by the high costs of developing for consoles, the significant amount of red tape and excessive update fees.

Fast forward to next-gen, and the way console manufacturers approach indies is completely different. Nintendo has already ushered in a new way of thinking with Wii U, allowing developers to update their games free of charge and introducing HTML5 development platform the Nintendo Web Framework as it looks to entice mobile devs.

Nintendo of Europe business development manager Ed Valiente tells us the firm has also worked on streamlining the drawn-out process to become an authorised developer on its systems, and is also set to implement "step-by-step large improvements" across all parts of the process, from first contact to product release and beyond.

Sony, meanwhile, teamed up with *Develop* to host a special PlayStation Developer Day in October at SCEE's London HQ as it becomes more open about its submission process and what the manufacturer can do to help, and more of these events will be held across the UK next year.

> ***"Indies can practice auteur game design, as they are free from many conventions and business constraints."***
>
> Ed Valiente, Nintendo

The console giant has also streamlined its submission and approval process, ditching its regional two-stage process for a single-stage global one, and has a team of account managers on hand to help with queries. SCEE has also promised *Develop* it is working on making things even more streamlined and globally aligned in future.

Finally, Microsoft has launched the ID@Xbox program headed by Chris Charla, and has promised Xbox One retail units will eventually work as dev kits.

But, in the face of gaming's blockbusters *Grand Theft Auto V*, *Assassin's Creed IV* and *Call of Duty: Ghosts*, why are indie developers so important now to console manufacturers, and why has it become such a key battleground for the big three?

"In the current market, the traditional triple-A game concept may lean towards conservatism, for a multitude of business reasons," says Valiente.

"Indies on the other hand can practice auteur game design, as in a sense they are free from many conventions and business constraints, so they can focus on the creative vision for their game. This is an incredibly powerful motivator and we're seeing indie games becoming a driver of innovation in modern games design.

"That spirit, paired with the broad access to development tools nowadays, results in fantastic new game experiences developed in a frequency never seen before. Such new experiences are what the industry needs to deliver consumers in order to grow further."

SCEE's Shahid Ahmad, who is in charge of snapping up indie games for PlayStation platforms, agrees that it is this unrelenting creativity from small developers that sits at the heart of what makes these titles so crucial in the modern games industry.

"At PlayStation, we've involved developers not just on the software side, but with the design of the hardware itself," he says. "In the last few years, we've seen an indie revolution. The smallest developers have become

empowered to create all kinds of games, to take on risks that others just can't take. So indies are important to us because we've always been a platform that encouraged innovation, and we always want to be on that leading edge not just with technology, but with ideas too."

TAKING CENTRE STAGE

There is also a strong push from console manufacturers to not just appease indies during the submission process, but right through to post-launch and promotion.

For its part, Sony is offering promotional opportunities on the main PlayStation Store, the PlayStation Blog, a special indie section on its online marketplace and through social networks, with Ahmad a keen and frequent evangelist for the latest indie titles.

He explains there are a number of factors that make a successful marketplace, and that indie titles can help create that much needed vibrant ecosystem.

"Quality, visibility, choice, value and creative expression are all key to a successful online marketplace on consoles," he states.

"Sometimes, an indie is quite capable of ticking not just the 'creative expression' box, but all of them. I think there is a perception held by a minority that indie cannot equate to quality.

"I think over the last few years, we've begun to see that this equation is a fallacy and that indies can create a depth and quality of experience that is no different to any other type of game."

Nintendo has also made room for a special indie section on its eShop, and often shines the spotlight on indie content it thinks its users will enjoy, and Valiente says developers have been able to use this to great effect.

> ***"There is a perception held by a minority that indie cannot equate to quality. We're now seeing this equation is a fallacy."***
>
> Shahid Ahmad, Sony

He offers similar pillars for a successful marketplace place as Ahmad, explaining while Nintendo itself aims for quality, indies can provide another avenue to attract consumers.

"I think that the key element to a successful platform is content and quality; if there are interesting, creative, innovative and fun games, consumers will come," he says.

"Nintendo always strives for this type of content on its platforms, and through indies it is possible to have another way to have this type of content. I think that having a breadth of high-quality games ultimately makes a system and its marketplace successful."

FROM THE TRENCHES: NYAMYAM

Nyamyam's Jennifer Schneidereit

UK DEVELOPER Nyamyam is working on artistically-styled point and touch adventure title *Tengami* for the Wii U.

Studio co-founder Jennifer Schneidereit says so far, the self-publishing process for the console has been smooth and Nintendo has assisted the developer to overcome any barriers, and says the console giant provides "a level of contact that just doesn't exist when working with Apple".

She says that signing up to Nintendo's developer program only took a matter of days, and soon after had access to the developer portal, tools, documentation and quickly had two Wii U dev kits sent over from the US.

She adds that at present, there does not seem to be any restrictions or barriers that will keep independent developers away from making games and releasing them on the Wii U – particularly now that there is no longer an office requirement, meaning Nyamyam can develop *Tengami* from their home. However, Schneidereit believes there are areas Nintendo can improve on.

"Ideally there wouldn't be a territory separation and you would just sign one set of contracts, do one certification process and so on and be able to release your game in the Nintendo eShop worldwide. The territory separation makes the process a bit more bureaucratic than it should be in my opinion.

"Nintendo Japan's stance on self-publishing for indies is not quite clear to me at the moment and I would like to hear more about this. In the best case scenario they follow in the footsteps of Nintendo US and EU and adopt a company-wide, unified approach across the territories."

FROM THE TRENCHES: CHRIS HECKER

Former Maxis dev turned indie

PREVIOUSLY WORKING AT EA Maxis and on titles such as *Spore*, Chris Hecker was laid off from the studio in 2009 and went indie to work on his own title, *SpyParty*, which is currently in development.

Hecker says that long before Microsoft announced its plans for Xbox One indie initiative ID@Xbox, he had been in discussions with Chris Charla to help brainstorm what the new indie self-publishing process could look like, offering an insight into how the computing giant reached out to developers as it prepared its plans – revealed long after Nintendo and Sony had shown their hand.

"I think all three big console platforms are really starting out very indie-friendly this time, which is awesome," he says.

"There are really great people at Sony, Microsoft, and Nintendo now who understand indie games development and what our goals are, and they all seem genuinely interested in helping push the art form forward. It's never been easier to get an indie game on any of the big consoles. It's still a tonne of work to make a console game, but all of the contractual and business roadblocks seem to be gone or in the process of crumbling, which is awesome."

Hecker believes however that the next big step the console manufacturers need to focus on is discoverability, as Sony, Microsoft and Nintendo curate their marketplaces less and accept more titles.

"The iOS App Store is a disaster on this front, for example," he says.

"I don't think consoles will ever be as crowded as the App Store, simply because there is a pretty high technical bar to getting a game through the console certification process, but I predict discoverability is going to be the big challenge going forward."

FROM THE TRENCHES: VLAMBEER

Rami Ismail of Vlambeer

VLAMBEER'S RAMI ISMAIL, whose studio has developed titles such as *Super Crate Box* and *Ridiculous Fishing*, says Sony and Microsoft have made huge strides with indie support compared to the last generation, and highlights some key benefits offered by the console firms.

"While PlayStation 3 allowed for self-publishing, it was an extremely convoluted process aimed at companies that had the resources to just throw some accountants, lawyers and project managers at the process," he states.

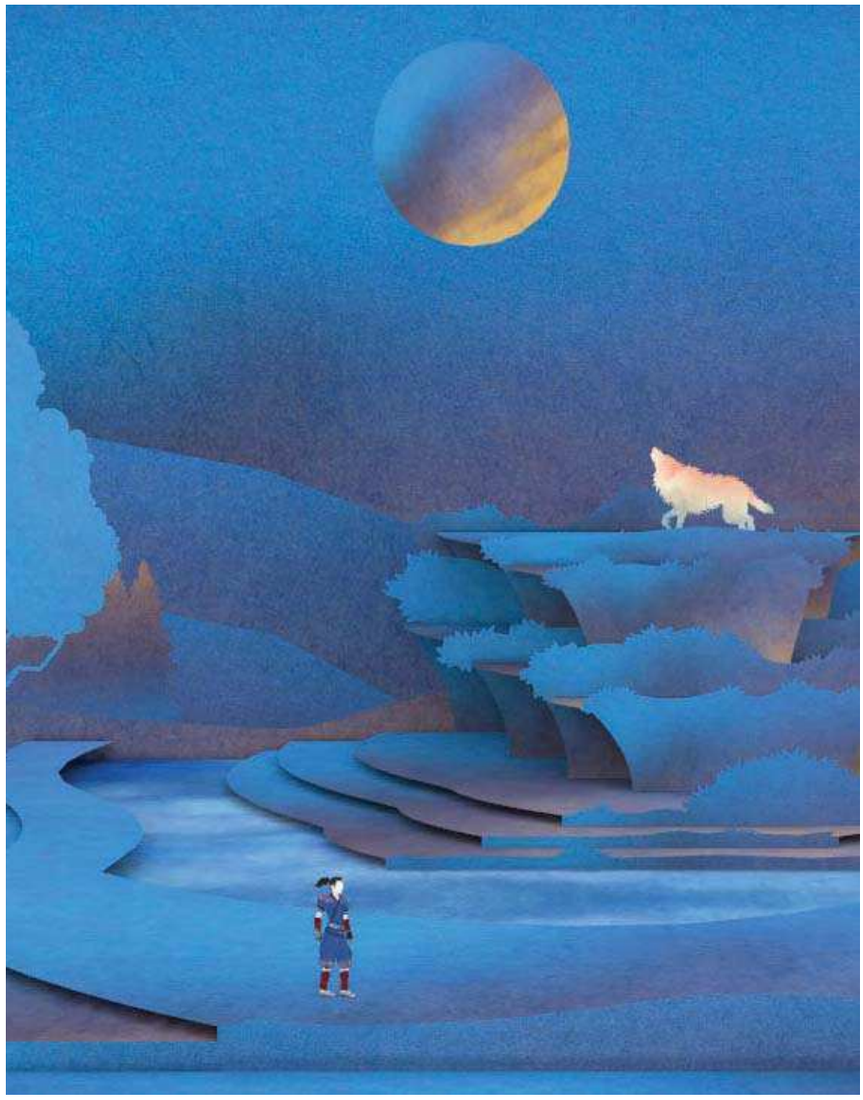
"In the last year, Sony has made remarkable strides to create a streamlined process – something that benefits absolutely everybody in the games industry, besides those accountants, lawyers and project managers. Xbox 360 never had a self-publishing deal - so ID@Xbox is a huge improvement as well.

"The interesting difference at the moment is that while Steam seems to slowly be opening up with hundreds of games passing through Greenlight in the past months, and iOS has traditionally been open to anybody that can afford the development costs, Microsoft and Sony continue to offer curated platforms. That comes with different challenges and different opportunities."

There are some other aspects Microsoft, Sony and Nintendo could improve however, he says, and that includes further streamlining certification and the technical requirements checklist.

"That process has a lot of arbitrary delays and waiting time, and improving on that could help a lot," he explains.

"At the other end, the ability to develop for consoles as a tinkerer is something that platforms should probably invest in in this age of increasingly democratised development tools. There are obviously arguments to be made for why things are that way, but seriously: it is sort of insane that in 2014, dev kits are still going to be a big deal."



Nyamyam co-founder Jennifer Schneidereit, says Nintendo has been incredibly supportive as the studio develops adventure game Tengami (top right) for the Wii U

With indies so key to a vibrant digital store for consoles, and the big three doing so much to promote them and fight for indie favour, does this mean they can be system sellers?

Valiente says that on their own, given the non-exclusive nature of many indie titles, they are not necessarily driving console sales, but he is confident a healthy ecosystem could prove enticing to consumers.

"If we take indie games as a general offering and outlet of creativity, their growing relevance could be the difference between someone investing in a new platform or not. In the end, good, high-quality content is part of creating a successful system," he says.

Ahmad similarly believes indie games can provide the tipping point to make consumers fork out their cash, and offers a number of examples as to why this could be the case.

"I'm buying a PS4 to play *Resogun*. I know I'm not the only one," he states. "People came up to Mike Bithell at the Eurogamer Expo and said they'd be buying a PS4 to play *Volume*. People will buy a PS4 to play all manner of games and enjoy all kinds of experiences, but there's no doubt that the thing that could tip them over the edge to actually buy a system in the future, might well be an indie game."

A NEW KIND OF PUBLISHER?

Given all this attention, and Nintendo Microsoft and Sony's willingness to streamline the submission process, provide constant assistance throughout the development phase and support the post-release push to sell, you could be forgiven for thinking the big three had taken on the mantle of publishers.

Ahmad says the lines between developer, publisher and platform will inevitably become blurred as consoles shift toward the digital space and developers move into creating games as a service.

> ***"No doubt the thing that could tip people over the edge to buy a system in the future might well be an indie game."***
>
> Shahid Ahmad, SCEE

"Given that context, we see a bright future for publishers, but everyone is going to have to keep on adapting as the parameters continue to shift, and we are surprised as the boundaries of the possible continue to be pushed," he explains.

"There's no doubt that the collapse of the double-A space has left a sizeable gap in content. The ecosystem is changing. We've worked closely with developers and publishers to bring titles that otherwise might not have made the jump over to PlayStation, like *Thomas Was Alone*, *Hotline Miami* and *Spelunky* and in doing so, we've hopefully started some great relationships."

However, Valiente says definitively that, at least from Nintendo's point of view, console platform holders are not effectively taking on the role of the publisher.

He says it is Nintendo's job to ensure its marketplace provides consumers a plethora of content they are interested in, and its main responsibility on the marketplace lies with them, rather than the developer.

"Once the product is out, we are the shopkeeper, and our main responsibility actually turns towards the consumer – offering them content they are interested in is the only way to run the shop successfully. As a consequence, indie games often take centre stage on Nintendo eShop," he says.

"One thing that differentiates us very clearly from being a publisher is that on the Nintendo eShop, the developer is in control of the pricing of their products at any one time; they decide at what price to sell, when, and how to change it."

Regardless of whether or not Microsoft, Sony and Nintendo are essentially becoming modern day game publishers, one thing is clear. The lines have now been drawn, but it may take a long time before we see the real results of the console reaction to the indie revolution, and who in the console space will win favour amongst indies – particularly in the face of PC and mobile. ■

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The other side of violence

The industry's most popular games revolve around death – but are they making light of it? **James Batchelor** discusses how developers can and should tackle the themes of violence and war as we enter a new generation of realism

Main: Crytek's Xbox One launch title Ryse: Son of Rome centres around particularly brutal combat, but devs say war is not a topic video games should avoid

THE NEXT GENERATION of video game consoles has arrived, and unsurprisingly the most prominent launch titles are centred around large-scale battles and violent combat.

From the bullet-spewing firefights of *Call of Duty: Ghosts, Killzone: Shadow Fall* and *Battlefield 4* to the brutal conflicts seen in *Ryse: Son of Rome*, the superior processing power that Xbox One and PS4 offer are being used to provide more realistic, graphic and detailed ways of killing things.

But while the bodies littering *Ryse*'s battlefields are part of the title's atmosphere, where do we draw the line between a realistic depiction of warfare and glorified violence developed primarily for its shock value?

"The glorification of violence isn't neccessarily the issue," argues Paul Stephen-Davis, director at Retro Army, the studio behind anti-war parody game *Super Trench Attack*. "What's more important is the context and how it's presented to the player.

"I worked on *Manhunt* as a level designer, It's a very violent game but the execution was done in an intelligent way: it was deliberately over the top. Yes, it does have shock value, but it also had a dark sense of humour thanks to the director's humourous commentary, which helped take the edge off the violence.

"Without the humour and out of proportion violence, I think it would have been too much for most audiences. Games can become too violent when they become too close to reality. The trick is maintaining that it is a game."

Positech Games founder Cliff Harris adds that the depiction of death also needs to be considered carefully: "All you really need is to make it clear that someone is dead. Maybe some blood, an 'arghh' and falling over pretty much conveys that. Hacking off body parts and extended gurgling noises don't really have any justification in my eyes, other than a childish desire to offend or shock.

"The assumption is that gamers love all that, but I can't imagine turning off gore is too difficult to implement for those who don't. I do wonder why this isn't more of an option in games."

> ***"Removing civilians from urban settings implies anything that moves can be shot. But in war, not everyone is a combatant."***
>
> Bernard Barrett, ICRC

Some firms already take a 'no gore' approach to their games, including Wargaming. Despite its games being dedicated to large-scale conflicts, the nature of *World of Tanks* and *World of Warplanes* is unaffected by the absence of human casualties.

"We are against games with blood," says CEO Victor Kislyi. "We specifically avoid body damage, blood, things like that – there are no humans in our games. There are just machines, and we stay away from human violence."

Harris adds that, while he believes the industry can be "far too defensive" about how it portrays violent acts, developers and publishers must also accept that the more graphic titles can be genuinely distressing.

"Of course games affect people," he says. "So do movies, plays and books. But only games are interactive. A game that rewards a player for violent acts is more damaging than a book that gives you a passive position as a reader about someone else's actions."

THE ART OF WAR

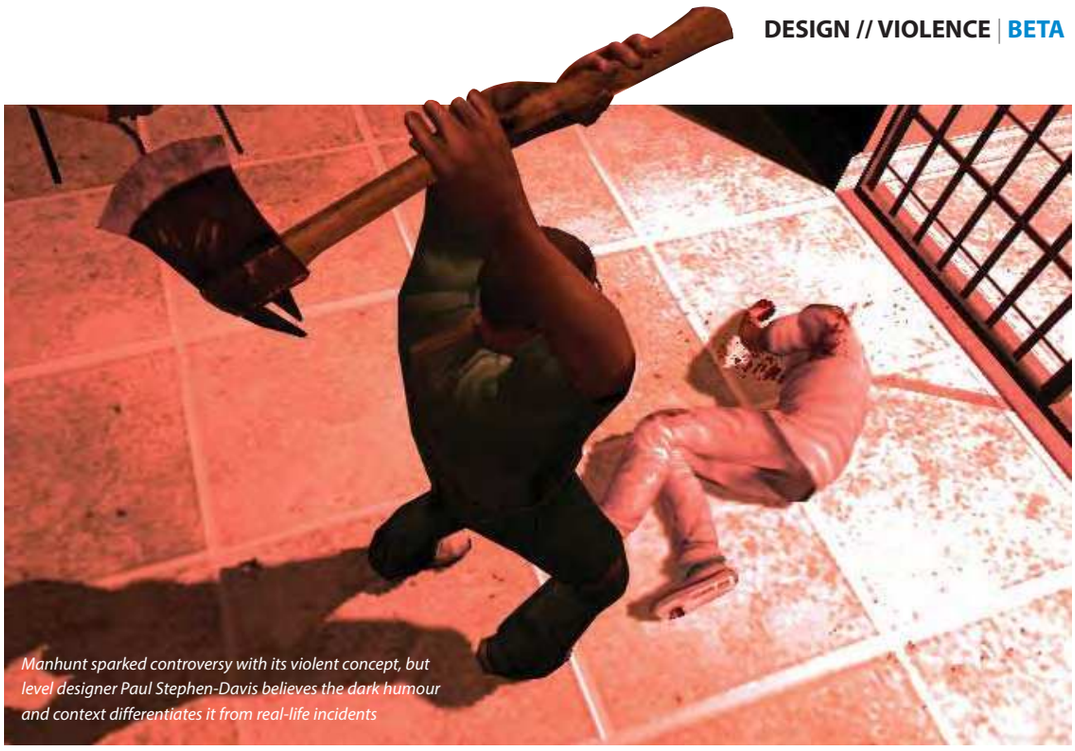
If a game has a war setting, it can be impossible to avoid depicting death and violence. But, says Stephen-Davis, it's the disconnect between gaming and real warfare that can give developers artistic licence to experiment with how they present these aspects.

"The violence in war video games is constant throughout," he says. "Deaths are presented in an over-the-top, glorified way, which isn't meant to be realistic, but fun and visually rewarding.

"The player is usually a one-man army taking down hundreds of enemies single-handedly without worrying about moral implications – but they understand it's just a game.

"In real life, a soldier is simply part of something much larger. In games, the world revolves around the player's actions. It's clear to anyone that war in a game does not follow the rules of reality."

But that's not to say games shouldn't try to recreate war and other violent situations realistically. In fact, the International Committee



Manhunt sparked controversy with its violent concept, but level designer Paul Stephen-Davis believes the dark humour and context differentiates it from real-life incidents

for the Red Cross has openly urged more studios to integrate the consequences of war into games as well as the mechanics.

"One game we helped with removed all civilians from an urban setting to avoid controversy," said public relations officer Bernard Barrett. "To us, that doesn't make sense, and it reinforces the message that anything that moves can be shot at. But in modern conflicts, not everyone in urban settings is a combatant, and the military has to make choices to shoot or not shoot."

Stephen-Davis agrees: "*Modern Warfare 2*'s No Russian mission is a good example of conveying an anti-violence message in an intelligent way, as the player is given the choice on whether to shoot innocent civilians or not. It's the choice that matters.

"It would also be interesting if games showed both sides of the conflict, rather than good guys versus bad guys."

None of these experts believe developers should shy away from war as a topic.

"Whether we want it or not, military conflicts have been part of our history," says Kislyi. "And today, there are various sized conflicts still going on. So we cannot pretend this does not exist."

KILLING IN THE NAME OF

Instead, video games can be used to explore the themes of both violence and war, just as films and books do.

"Games present a unique opportunity," says Barrett. "A lot of soldiers play them in their downtime. And there are parallels between these titles and military training simulations.

"They are also played by an age group that is likely to be recruited by the military. We need all of these people to understand that in armed conflict, it's not a case of anything goes: there are restrictions and rules."

Playmob founder and CEO Jude Ower adds: "By providing historical relevance, games can act as a very effective educational tool which could also encourage tangential learning. The developer must be mindful of the audience they are targeting, tailoring the content depending on who will play."

When it comes to the broader perspective of war, strategy games can also help convey the negative consequences.

"*Civilization* has taught me to avoid war at any cost," Kislyi explains. "The cost of failure is so high that you should only go to war if there is no way to avoid it. *Civilization* teaches you that wars are expensive, long, and will make mincemeat of your troops and the enemy's."

> ***"All you really need is to make it clear that someone is dead. Hacking off body parts and extended gurgling noises isn't justified."***
>
> Cliff Harris, Positech Games

Even the most controversial games can be used to convey messages of anti-violence. Playmob ran a campaign called Peace Games alongside the United Nation's global day of peace on September 21st – the same week that *GTA V* was released. But far from shunning this notoriously violent game, the team used it to their advantage.

"We had *GTA* on our live stream, on the condition that non-violent activity happened in the game," Ower explains. "And there was a huge amount of activity for players: sky diving, golf, flying a plane, cycling, stunt jumps.

"We had around 500,000 viewers check out the channel in 24 hours. This also shows that gamers are not violent people. The more the industry can get behind doing good in their games, I feel the more the general perception of 'games being violent and bad' will diminish."

OFFENCE OR DEFENCE

However, companies are keen to stress that developers should not bombard gamers with anti-violence messages.

"We don't want to stop the game and have it give players a preachy three-hour lecture on the Geneva Convention or anything like that," says Barrett.

"Various penalties can be worked in that would be realistic but not bring the game to a grinding halt. It can be very simple things like getting shot at by your own side or lose command of your troops if you shoot civilians. Because if the game is boring, that's no good for the player, the game manufacturer and it's no good for us either."

Stephen-Davis adds: "I don't think it's our job as developers to provide a social or moral commentary on war issues, as games can't be compared to the realities of war. I think we should focus on providing fun experiences rather than attempting to recreate a realistic war simulation."

As the next-gen launch line-ups have proven, there is still plenty of demand for games centred around violence and war. Even the Xbox One and PS4's most anticipated future releases, like *Titanfall* and *Destiny*, share these themes. It's how developers tackle those themes that will hopefully change in the future.

Harris concludes: "To be honest, people who buy a game with a war setting pretty much want to see stuff blow up. I'm open to anti-war messages, but sometimes I just want to satisfy that primitive testosterone urge to smash things to bits with big guns, safely, as a fantasy.

"*Blackadder Goes Forth* had the right approach: highlighting the pointlessness of the situation, but still 'enjoying' the setting despite the madness that has led to it. I think that can work, where you tell someone how futile and pointless the conflict is, and in return for the player accepting that premise, you then give them what they probably want. Which is stuff exploding." ■

Top to bottom: Positech's Cliff Harris, Playmob's Jude Ower, Retro Army's Paul Stephen-Davis, Wargaming's Victor Kislyi and ICRC's Bernard Barrett

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The rise of Silicon Fen

Home to dozens of influential technology firms and successful games studios, **James Batchelor** finds out how Cambridge became our nation's leading games development hub – and why not enough people know about it

THERE ARE MORE reasons to visit Cambridge than just universities and punting. The city is home to the UK's most highly concentrated community of video games developers, with the offices of Frontier Developments, Guerrilla Cambridge, Jagex, Ninja Theory, Geomerics and more all within a few miles of each other.

When asked why these firms chose to set up in the UK's bicycle capital, the reasons are varied: healthy living, cultural diversity, a nearby airport, the ability to get to Central London faster than those who actually live in London and some really good pubs.

But the truth is something far more organic: it was impossible for the games development community to not find a home in Cambridge.

"There are a lot of enormous technology companies – ARM, Broadcom, Qualcomm and so on – which basically led to the start of software development here," explains GameWare director and Games Eden chair Jeremy Cooke.

"It started with the home computer revolution, with Clive Sinclair and Acorn, and then people like David Braben knocked on their doors to sell them game products like *Elite*. That's how Cambridge has become the UK's leading games development community."

Frontier founder and veteran developer Braben adds: "It's not just games – so many things flowed from that. If you look at the chipsets in smartphones, most come from Cambridge companies. Even the Apple chipset is based off ARM's technology. And Microsoft Research developed the Kinect right here. There's so much technology that has come out of the university and the companies that have grown around it, and it's great as a location for writing games.

"You won't find an area anywhere in the world where you have the same concentration of games and technology firms geographically."

The University of Cambridge is obviously a major factor in the city's development, and it has played a role in growing the UK games industry, too.

> ***"Nowhere in the world has the same concentration of video games developers and technology firms geographically."***
>
> David Braben, Frontier

"We have an exceptional graduate output that we are trying to engage in digital creativity," says Cooke. "Remember, Jagex and Frontier were both founded by Cambridge University graduates so it's fairly obvious that there are talented graduates who are capable of building world-class companies."

Guerrilla game director Piers Jackson adds: "The university set the benchmark around here. It has been a scientific centre of excellence for a long time, and these things always snowball: the more investment and companies come to Cambridge, the more people it attracts."

While Anglia Ruskin University is very active when it comes to engaging with the games industry, the University of Cambridge has yet to embrace games design as an academic pursuit. However, the skills it teaches are still invaluable to developers on the lookout for graduates.

"The university teaches pure computer science rather something more vocational, and that's always been their philosophy," explains Braben. "That said, there is vocational support – projects around game-themed topics, and so on – and the university is very good at supporting that sort of thing, particularly if the industry is keen to get involved with it.

"And focusing on computer science is not a bad thing: the games side of it is actually easy to pick up. It's mastering the complex computer science skills that is the hard bit."

ALL ABOUT REPUTATION

A combination of the University's legacy and the broad range of tech firms in Cambridge – earning the area the nickname of Silicon Fen – has lent some of the city's stature to the games developers themselves.

Indie developer Jonathan Skuse says: "I've found a really good badge. When meeting people – in London especially, but even overseas – the fact that we're based in Cambridge, even as a tiny little start-up, does seem to provide a certain resonance than if we were based in Bristol or any other place."

More importantly, there is a constant stream of new graduates and other

Top to bottom: Frontier's David Braben, GameWare's Jeremy Cooke and Guerrilla's Piers Jackson were among the leading Cambridge developers that took part in the Develop roundtable at Frontier's HQ (main).

Top to bottom: Creative Front's Clare Green, UWoS' Woodrow and Jagex's Gerhard. Main: Killzone Mercenary and Zoo Tycoon are some of the latest releases developed in Cambridge.

▶ potential employees on these studios' doorsteps, according to Ninja Theory director Nina Kristensen.

"The massive high-tech business cluster as well as Cambridge University means the city naturally attracts the kinds of people we want to employ," she says. "We have strong ties with the university and regularly recruit graduates from there – although obviously we recruit worldwide as well."

Jagex CEO Mark Gerhard adds: "A lot of talent also stays local. Even if there's not direct collaboration between games and tech companies, a lot of people do tend to move between them. There's a lot of cross-pollination."

And organisations such as Anglia Ruskin University, Games Eden and Creative Front are doing all they can to help entice more people into this talent pool.

Creative Front's marketing and operations manager Clare Green says: "The work we're doing around Brains Eden, bringing students in from across Europe, and having mentors from each studio work with them has resulted in full-time contracts at Cambridge studios, internships and so on. The studios we have here and the work that's coming out are attracting talent. And not losing that to any of the other UK hubs is important."

Jackson adds: "That transition from universities into our industry is absolutely critical. The knowledge gap is so large that, to get to the cutting-edge of things, we need to bring more internships, courses and feeders into our industry, and Cambridge is good for that."

But the high concentration of studios means that no matter how many highly-skilled graduates the universities produce, it is insufficient to truly meet local games recruitment needs.

"We've hired a lot within Cambridge, but almost two-to-one of our hires are experienced people coming in from abroad," says Gerhard. "It's hard to grow and get certain skills when they're not all in Cambridge, or in the UK."

> ***"The studios we have here are attracting talent. And not losing that to any of the other UK hubs is important to us."***
>
> Clare Green, Creative Front

Jackson concurs: "It's inevitable that we all end up recruiting outside of Cambridge. If you look at the size of the city and the number of companies sitting around this table, we're all vying for the same talent. We need to be recruiting elsewhere."

AWARENESS ISSUES

Fighting for new talent is just one of the problems that having so many companies in the same vicinity can cause. Another is that certain firms, events and initiatives find it difficult to raise their profile, and even when they do, people aren't always fully aware of their work.

"There is so much going on in Cambridge that it is hard for any one industry to get heard consistently," says Geomerics COO Chris Doran. "In the games industry we have a successful networking organisation and Creative Front does a good job of raising awareness for the wider digital entertainment industry locally. But it is hard to raise awareness when you are up against local icons like Stephen Hawking."

Green agrees, adding that the bigger firms in Cambridge can get distracted by their wider business: "All of the large technology and creative industries are global-facing. The companies here have a global market, so running stuff locally and getting them to look at other firms on their doorstep is a stretch. Flying the flag for Cambridge is something we've been trying to do for years because the marketing and all of their efforts are for a global audience."

One area the local veterans are keen to highlight is the various opportunities for indies. While the development landscape is dominated by the firms that have been around for more than a decade, new players like Utopian World of Sandwiches are still receiving plenty of support.

"There's a really good, vibrant indie community that meets up weekly. I don't know of any other indie scene in any other city that meets that regularly," says the studio's creative director James Woodrow.

"It's not just games-based, either. It's always interesting to surround yourself with people who aren't in your industry because they bring a totally different perspective to helping you solve problems, and give you opportunities you wouldn't get if you just dealt with companies of the same ilk as you."

UWoS UX designer and developer Sarah Woodrow adds: "There's a lot of support for start-ups: things like Ideas Space, which is a great community of people trying to help start-ups with the business side of things.

"And knowing people that work at the larger studios is helpful, too. James worked at Jagex for years and from that, we probably know someone in every local games company because people have spread everywhere."

Skuse agrees, adding: "It's never hard to find an expert on whatever it is you're looking into. I had to do a lot of research into synthetic phonics recently, and there's always someone in Cambridge that you can speak to on these things. People will just invite you to their office at the university, sit you down for an hour and talk about it. It's really useful."

Financial support is also available, although access is more of an issue than awareness. Studios agree that there are good people within Cambridge that are willing to back video games projects – more so than they would have been in years past.

And some support, says GameWare's Cooke, comes from the most unlikely of places.

"Julian Huppert [MP for Cambridge] is more concerned with the roads and our infrastructure than he is with the games industry, but he does quite like developers. He came to our last event so he knows we're here, and he does want to support the games development industry in Cambridge because he recognises it is a leading hub of digital creativity." ■

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Scouring both sides of the Atlantic and beyond, Develop has selected gifted programmers, entrepreneurial leaders and indie stars for this year's round-up of the best and the brightest young games development talent

Ben Hinchliffe
Designer,
Rockstar Leeds

Ben Hinchliffe's keen interest in games led him to become a pro gamer at the age of 12. He went on to study Computer Game Design at the University of Huddersfield and undertook a host of extra games-related activities. These include designing *Yo-Ho-Kablammo* to win Microsoft's Dream Build Play competition and winning the best Team Designed Game from Rockstar Games. This led to a placement with Rockstar Leeds. Now aged 26, he has been at the studio for four years and has worked on *LA Noire* and *GTA V*.

Aj Grand-Scrutton
Chief Executive Officer,
Dlala Studios

Aj Grand-Scrutton, 28, formerly worked as a developer for Bossa Studios on the BAFTA-winning *Monstermind*. Following this, he and co-worker Craig Thomas decided to quit their jobs, move into their parents' garages and start a studio with just £3,000 between them.

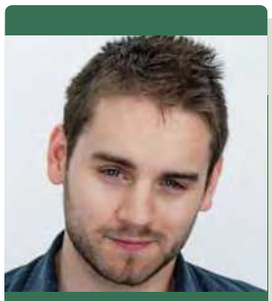
Within Dlala's first seven months of being a studio, it had created a game in nine weeks, been featured on the cover of *Develop* and invited to move into Microsoft Soho as the first studio on its new accelerator programme. Since then, Dlala has been nominated for numerious awards.

Carla Rylance
Art Outsource Manager,
nDreams

Carla Rylance's career in games began at Supersonic in 2005, where she designed and created assets for titles including *Micro Machines V4*. She joined nDreams in April 2012.

Her colleagues describe her as organised, proactive and a fantastic team player. In her role, she maintains relationships with external partners and has worked on several content packs for its PS Home projects.

nDreams says the 29-year-old has delivered results way above its expectations, and made a "noticeable difference to our profitability".



Jay Crowe
Creative Director,
Bohemia Interactive

A 27-year-old British national now living in the Czech Republic, Jay Crowe works at Bohemia. When production on *Arma 3* suffered from some major setbacks, including the detainment of two employees in Greece, Jay took over the role of creative director. In just a few months, he helped to turn around the project, redefine the vision, and guide *Arma 3*'s successful alpha and beta releases.

His colleagues say he combines a great sense of humour with a hard-working attitude, inspiring the team day-by-day and contributing to each aspect of their developments.

Claire Blackshaw
Senior Technical Designer,
Climax

Claire Blackshaw, 28, joined Climax two years ago to work on R&D for *Wonderbook*. She has worked on a variety of projects within the studio and is currently a programmer and designer on its PS4 project. Blackshaw brings her programming and design experience to bare as senior technical designer.

Her ability to jump from high-level concept design meetings to low-level programming is valued at the studio. Her colleagues add that her sunny outlook brings a touch of pizazz to the studio and the projects she works on.

Grant Orban
Game Designer,
Playground Games

Grant Orban, 25, has been a rising star at Playground since he joined the team early in the development of *Forza Horizon*.

As a Computer Science grad, Playground says Orban combines an excellent technical understanding and an analytical mind-set with a natural creative flair and a passion for games of all kinds.

He has already been promoted during his time at Playground, and has established himself as a key member of the design group as the studio moves into next-gen development. Orban is certainly a talent to watch.

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Simon Kilroy
Software Engineer, Ruffian Games

Described by his colleagues as "a rare breed", 26-year-old Simon Kilroy is a skilled designer who knows how to converse with all manner of development staff.

Kilroy studied at the University of Abertay. Since joining Ruffian Games in 2011, he has worked on the likes of *Kinect Sports Rivals* and *Tribal Towers*. Described as "stupidly talented, friendly and charming", Kilroy has a knack for acting outside the job role "bubble" that can often make communication between dev staff tough.

Alex Zeitler
Co-Founder and Chief Technical Officer, Guerilla Tea

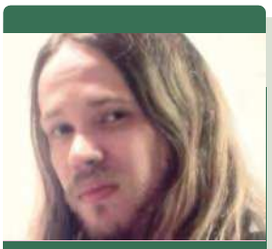
As a co-founder and CTO of an indie studio, Alex Zeitler has established himself as a confident team leader, who's ready to tackle business meetings with the same zeal he meets technical hurdles.

The 29-year-old's extensive research and understanding of genetic data tipped the scales in Guerilla Tea's favour when pitching to Cancer Research UK, which it has production genetic data processing algorithm for especially. He is a crucial member of this small team, and one whose abilities mark him out.

Luke Williams
Game Designer, Bossa Studios

Twenty-six-year-old Luke Williams started off as a QA tester at Bossa in July 2012. In less than a year, he has worked tirelessly to become the studio's in-house game designer. Partly mentored by Mike Bithell, Williams has gone to create *Surgeon Simulator 2013*, which has sold almost half a million copies.

Credited as being instrumental in the game's creation, his colleagues say he displays great design ability. Williams is now working on the studio's latest upcoming game, *Time to Live*.



Kyle Rowley
Gameplay Designer, Remedy Entertainment

Kyle Rowley has worked at various games companies within the UK, including Lionhead, EA, Codemasters and Frontier. The 28-year-old started out as a tester, before switching to marketing. After a stint on Codies' community team, he transitioned to design at Frontier, working on *The Outsider* and *Kinect Disneyland Adventurers*.

Most recently, he has joined Finnish studio Remedy to work on *Quantum Break*, out of a desire to work on a big budget, narrative-driven video game.

Tamas Kemenczy
Game Designer and Art Director, Cardboard Computer

Tamas Kemenczy did art and design for Cardboard Computer on the game *Kentucky Route Zero*, and has won two awards this year for his visual art.

The 29-year-old has been making waves in the industry by establishing a striking visual look to his games, which draw on his skills as a visual artist and designer. In between *KRZ*'s development, Kemenczy made *Coureur de Bois*, an intense action twitch game, which has been featured on the LA Game Space website.

Sebastian Long
User Researcher, Player Research

Approaching his two-year anniversary as a user researcher at Player Research, Sebastian Long, 27, has positively impacted more than 50 titles across all platforms. And his peers say he is a talented and professional researcher. Long evaluates behaviour and emotion via playtesting, user research and player interviews.

Alongside the team at Player Research, Long has worked with PaperSeven on *Made in Chelsea: The Game*, and had a direct impact with usability insights.

Ted Timmins
Senior Designer, Lionhead Studios

Faultless tenacity is what has led Ted Timmins, 28, to work his way up to the position of senior designer at Lionhead Studios.

At 18, he did work experience at the studio as a tester on the original *Fable* and demonstrated a refusal to let even small bugs slip by negotiating with programmers to see them eliminated.

After a colourful series of events too long to list here, he caught the attention of Lionhead brass with a concept that became *Fable Heroes*. Recently, he led the team on *Fable Anniversary*.

Olivier Issaly
Managing Director, Ubisoft Owlient

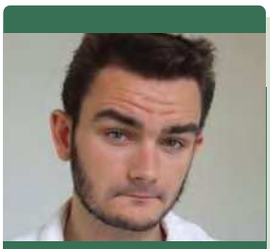
While still at university, self-taught developer Olivier Issaly and his friend Vincent Guth launched their first profitable online game from an internet café in 2005. Issaly understood the potential of F2P before the model really took off, which was why Ubisoft purchased the studio in 2011.

Now the 29-year-old is hoping to replicate the success of *Howrse*, its biggest title, which is available in 25 different languages and with 44 million registered online users worldwide.

James Stant
Audio Designer, Frontier Developments

James Stant recently completed work on Xbox One launch title, *Zoo Tycoon*. Employed as an audio designer at Frontier Developments, he has audio contributions include work on *Banjo-Kazooie: Nuts & Bolts* and *Kinect Sports* – credits that were both obtained before finishing his university studies. He has also worked on projects for Codemasters and Blitz Games Studios.

Now a permanent employee at Frontier, the 25-year-old is striving to deliver outstanding audio for video games.



Karn Bianco
Graduate Software Engineer, Rare

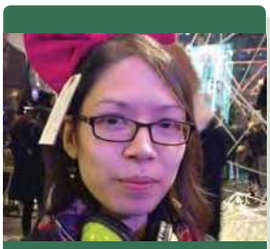
Twenty-four-year-old Karn Bianco has contributed to three console titles in less than two years, proving him to be an extremely talented engineer. Starting as an intern at Rare, he became a "bug-fixer extraordinaire" on *Kinect Sports 2*, confidently delving into unfamiliar code and implementing reliable solutions.

His reputation as an efficient engineer saw him stepping up to assist fellow studio Lionhead on *Fable: The Journey*. Now back at Rare, Bianco's co-workers say his future at the studio is very bright.

Erik Hittenhausen
Head of Functionality and Compliance, Testronic Labs

At 28, Erik Hittenhausen has achieved a lot in the field of QA. He has been responsible for overseeing the growth of Testronic's functionality QA department from a headcount of ten to over 200 in just five years. Now the head of functionality and compliance QA, Hittenhausen's expertise is being called on and he has been asked to share his knowledge at events such as the London Games Conference.

His colleagues say he has fantastic technical skills and an ability to pass on complex testing ideas digestibly.



Jodie Azhar
Character Rigger, Creative Assembly

With her rare combination of technical and artistic ability, Jodie Azhar, 26, has left a lasting impact on all of the studios she's worked at. Her co-workers say that her focus on continual improvement in herself and others makes her a great employee and a perfect role model. She has handled technical animation for console and mobile titles at Rebellion and Kuju, working on scripting, content and creation tools. Now a character rigger at Creative Assembly, Azhar is helping to raise the bar for animation.

Sophia George
Co-Founder and Chair, Swallowtail Games

Sophia George has achieved a remarkable amount in two years. At just 23, this Abertay graduate co-founded Swallowtail Games and led the design on its first title, *Tick Tock Toys*, which was awarded the 2012 BAFTA Ones to Watch Award. She was been named as one of *MCV*'s Top 100 Women in Games. And, this year, George also became the V&A's first ever games designer in residence.

Credited by peers as an approachable and gifted designer, George shows tremendous promise for one so young.

Daniel Da Rocha
Managing Director, Mudvark

Starting Toxic Games straight out of university in 2010 with investment from the US-based Indie Fund, Daniel Da Rocha project led the student game *QUBE*.

Released in 2012 on Steam, he was able to pay back the initial funding in just four days.

Following this, Da Rocha, 24, set up Mudvark that year to focus on HTML5 games for mobile and the web. Mudvark released its debut game, *Mortar Melon*, at the end of 2012 and has racked up over 800,000 downloads on the Windows Store alone.

Ryan Wiltshire
Producer, Splash Damage

Ryan Wiltshire, 28, has contributed to over 50 titles in his six years in the industry. After stints at THQ and Bethesda on *Brink* and *Fallout: New Vegas*, Ryan joined Splash Damage's WarChest team as an associate producer in 2012 to oversee its mobile game, *RAD Soldiers*. After the games's glowing player reviews, Ryan was promoted to producer and is now managing the studio's upcoming F2P shooter *Extraction*. His colleagues describe him as a committed and diligent production pro.

Gordon McLean
Technical Director, Beartrap Games

Since starting his career in Dundee's games sector in 2008, 27-year-old Gordon has worked at Cohort Studios and 4J Studios as a programmer on an impressive portfolio of PS3, PSP and XBLA titles.

In October 2012, he set out with three other Cohort veterans to form Beartrap Games, taking on the role of technical director. Playing a key role in Beartrap Games' early growth, Gordon has stepped away from his computer and has been a pivotal support in new business pitches and meetings.

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Alan Zucconi
Independent Developer

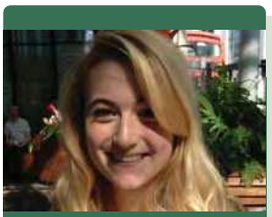
Award-winning developer Alan Zucconi, 27, started his career in games by creating services such as Doriana82 and Xattenger. Together, they reached over one million users, granting his team an Italian award for web development as Talents Under 24.

During his PhD he contributed to the creation of *Blink*, an eye-controlled video game that uses ultra-low-cost eye-tracking technology developed for disabled people.

Dan Pearce
Co-Founder, The Tall Trees

Well liked in the indie community and always ready to share advice on Twitter, 19-year-old Dan Pearce is going places. Co-founder of The Tall Trees, he co-designed its recently released debut title, *Castles in the Sky*. The game has been praised by Jenova Chen and, maker of *Gone Home*, Steve Gaynor.

For the past year-and-a-half, he has been working independently on *10 Second Ninja*, a blisteringly fast platformer, expected to release in 2014.



Ellen Dudley
Computer Games Art Student, Teesside University

Currently studying Computer Games Art at Teesside University, 22-year-old Ellen Dudley recently earned herself a contracting position as a junior artist at Microsoft's Soho Productions in London. She already has credits as a technical artist on *Kinect Sesame Street TV* and various projects from a yearlong internship.

Her co-workers at Soho Productions say she is going to be an incredible artist, and has been "an integral part of the creative team".

Céline Cogny
Gameplay Programmer, Ubisoft Reflections

Céline Cogny's first opportunity to work at a major games studio was as an intern programmer at Ubisoft Paris, working on *Just Dance 4*. Her focus was UI and gameplay programming. *JD4* was an international production, and the 22-year-old's near-perfect English made her a key connection between Paris and Reflections in Newcastle.

Her colleagues say that Céline will solve any technical problem she is faced with.

Palmer Luckey
Founder, Oculus VR

Palmer Luckey is inventor of the Oculus Rift, a new virtual reality headset designed specifically for immersive gaming.

At just 21, he has created a device that makes VR appealing again, and has sparked an industry-wide shift as devs and tech companies explore the opportunities this tech presents. Luckey's vision has attracted technical experts from Autodesk, Valve, SCE and more. He is without doubt a name to follow.

Ryan Locke
Lecturer, Abertay University

With degrees in arts and science, 28-year-old Ryan Locke has a breadth of both technical and conceptual knowledge that he uses to great effect as a lecturer at Abertay University.

Graduates taught by Locke have gone on to earn positions at some of the top games companies around the UK, Europe and North America, which is testament to his supervisory skills. He's on course to be one the UK's leading games academics in years to come.

Timea Tabori
Junior Engine Programmer, Rockstar North

Timea Tabori, 22, graduated with an honours degree in Computer Games Technology from Abertay University.

Originally from Hungary, Tabori has participated in multiple game jams as a student and volunteered to help IGDA Scotland. Previously, she worked as a software engineer intern at Codeplay and now, in her first graduate position as a junior engine programmer at Rockstar North, Tabori is aiming for the top.

Alex Wozniak
Community Manager, One Thumb Mobile

Alex Wozniak, 24, is community manager for One Thumb Mobile, the Scottish developer of mobile MMO *Celtic Heroes*.

As well as acting as the liaison between the game's growing player base and the rest of the team, Wozniak is also responsible for handling its social media channels and marketing-related tasks. He has ensured that feedback reaches the team and any and all queries are met in a timely and friendly manner.

HONOURABLE MENTIONS

Sadly, there is a limited number of spaces in our 30 Under 30 – 30, in fact – so we're unable to showcase every rising star that was nominated. Here are the ones that didn't get a spot in the final list:

Craig Thomas, Dlala Studios; **Matt Zanetti**, Guerrilla Tea; **Mark Hastings**, Guerrilla Tea; **Charle Czerkawski**, Guerilla Tea; **Eric Seufert**, Wooga; **Robbie Cargill**, Bright Static Media; **Stephen Simmons**, Microsoft Soho; **Christos Reid**, Independent; **Brendan Sutton**, Lopoly Games; **Kieran Murray**, Lopoly Games; **Kevin Williams**, Ubisoft Reflections; **Josh Hyde**, Ubisoft Reflections; **Samuele Panzeri**, Ubisoft Reflections; **Heather Murray**, Plumbee; **Lisa Tao**, Plumbee; **Lindsay Kirk**, IGDA; **Andrew Macdonald**, IGDA; **Antoine Pastor**, Somethin' Else; **Simon Iwaniszak**, Red Kite Games; **Bob Makin**, Sock Monkey Studios; **Darren Cuthbert**, Sock Monkey Studios; **Chris Long**, Jagex; **Sam Read**, Hypersloth; **Ben Royce**, Datascope; **Simon Roth**, Independent; **Lukas Roper**, Opposable Games; **Arran Langmead**, Ludophobia; **Adrian Gordon**, Ludophobia; **Jamie O'Flanagan**, Redverton; **Josh Bishop**, Subterranean Games; **David Hamilton**, Ninja Kiwi; **John van Rij**, Beard Bandit; **Henry Hoffman**, Mudvark; **Chris Garson**, Outplay; **Richard Pring**, Wales Interactive; **Jonathan Young**, PaperSeven; **Bruce Slater**, Radical Forge; **Pete Murdoch**, Reality Council.

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THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

How FMOD Studio revved Forza 5's audio p36

Power up your next-gen

Unlock the true potential of the PS4 and Xbox One with our crucial guide to the top dev tools, p34

Beat the cheats with FairFight p38

Inside texture streaming SDK Granite p40

Your next-gen arsenal

With the PS4 and Xbox One now available, **Craig Chapple** helps you gear up with a selection of the tools to support your development needs

ENGINES

Tech: Unreal Engine 4
Company: Epic Games
www.unrealengine.com

UE4 supports advanced directX 11 high-end rendering features and includes the Blueprint visual scripting tool, enabling devs to build content without writing a line of code. New animation system Persona is also built on top, helping devs refine a character's motion.

Tech: BitSquid
Company: BitSquid
www.bitsquid.se

Development on the BitSquid Engine only began in 2009, but the development platform is already being used to port the likes of Mojang's *Cobalt* to Xbox One and to develop Arrowhead's *Helldivers* for the PlayStation 4.

One of the engine's main features is its fast workflows designed to enable short iteration times. The tech enables mutli-core scaling and includes a built-in profiler and performance HUDS. It also features a scalable rendering pipe with multiple backends, and includes guides to implementing deferred shading, physical lighting, subsurface scattering and hardware tessellation.

Tech: Unity
Company: Unity Technologies
www.unity3d.com

Primed for next-gen with Unity 4.3, the tech includes character animation suite Mecanim, as well as extensive audio, lighting, rendering, physics, AI and terrain tools. Indies who part of Microsoft's ID@Xbox program will have free access to the Xbox One add-on for Unity.

Tech: Havok Vision Engine
Company: Havok
www.havok.com

Havok has optimised its Vision Engine for Xbox One and PS4 development, as well as its suite of Physics, Animation Studio, Destruction, Cloth, AI and Script tools.

The cross-platform Vision engine, coded in C++, features particle and post-processing tools, and the full engine licence also includes Physics and AI, as well as UI tool Autodesk Scaleform and lighting system Autodesk Beast. The tech also includes 3ds Max/Maya Exporters to export animated characters and static geometry, a Remote Script Debugger to analyse the performance of LUA script code and a runtime profiling framework for resource management.

Tech: CryEngine
Company: Crytek
www.crytek.com/cryengine

Used by Crytek in its graphics-intensive *Crysis 2* and *Crysis 3* titles, CryEngine features real-time editing of multi-platform game environments, whether in 2D or stereoscopic 3D, and will take advantage of the multi-core nature of PS4 and Xbox One architecture.

PHYSICS/AI/ANIMATION

Tech: Morpheme 4 & Euphoria
Company: NaturalMotion
www.naturalmotion.com/middleware

NaturalMotion's animation tool Morpheme 4 offers new advanced prediction modelling capabilities to enable developers to create complex integrations between animation and AI systems.

The tech includes a new ScatterBlend parametric blend node to help streamline animator workflow. The new feature also allows character motion to be controlled with real-world inputs.

The newly productised Euphoria supports next-gen, working with Morpheme to make believable character animation by simulating the motor nervous system to create more realistic movements.

Tech: Gameware
Company: Autodesk
gameware.autodesk.com

Autodesk is supporting next-gen with its entire suite of Gameware tools, which includes user interface solution Scaleform, lighting tech Beast, character animation middleware HumanIK, AI and pathfinding tool Navigation and 3D data transfer kit FBX.

Tech: XaitControl
Company: Xaitment
www.xaitment.com

Xaitment specialises in providing artificial intelligence tools. The firm's tech, xaitControl, is designed for helping developers with game logic and character behavioural modelling.

This means in-game characters can move more intelligently and make more logical decisions to help ensure that players don't get frustrated with their AI counterparts and foes.

Combined with the PS4's eight x84-64 cores and 8GB of unified GDDR3 Ram, xaitment hopes its AI tool will help usher in a new wave of smarter opponents and improved friendly AI to the next generation of games.

Tech: PhysX & Apex
Company: Nvidia
www.developer.nvidia.com

PhysX performs complex physics calcualations, aiding with collision detection, the simulation of rigid bodies and particle systems. Apex builds on this by enabling artists to expand the quantity and quality of destructible objects and more life-life clothing.

Tech: Ikinema RunTime
Company: Ikinema
www.ikinema.com

Ikinema's RunTime technology is a real-time full body animation solution that can proceduarally generate poses and animation during gameplay on human and fictional creatures.

The firm's tech also allows the manipulation of bones at every frame and provides a solver designed to produce life-like motion distributed automatically over a full body.

Through animatating characters procedurally in the game, the tool can reduce the animation load on blend trees. The same code can also be used on next generation consoles, such as the PlayStation 4 and Xbox One, and mobile devices.

VISUALS/GRAPHICS

Tech: Enlighten
Company: Geomerics
www.geomerics.com/enlighten

Geomeric's Develop Award-winning Lighting technology Enlighten has been used in numerous titles such as *Battlefield 3*, *Battlefield 4*, *Eve Online* and the upcoming *Dragon Age: Inquisition*.

The tech delivers full dynamic lighting in-game, and the firm has said the powerful architecture behind the PS4 and Xbox One, such as the large increase in memory, will mean much better and more realistic dynamic lighting in next-gen releases.

As well as being available as a standalone SDK, Enlighten can also be integrated into Unreal Engine 3 and 4, and comes with plug-ins to integrate into the 3ds Max and Maya viewports.

Tech: Yebis 2
Company: Silicon Studio
www.siliconstudio.co.jp/en

Designed for small and large studios alike, middleware provider Silicon Studio's post-rendering tool Yebis 2 offers developers a way to deliver high-end visuals and effects.

Developers can use the post-processing tech to implement depth of field effects, motion blur, multi-colour customoisable glare effects and bokeh. The tool also supports DirectX 11 to allow for real-time colour adjustments of rendering effects, and provides numerous high quality lens effects.

The tech was used in Square Enix's Agni's Philosophy tech demo, which showcased their next-gen development plans through the Luminous engine.

Tech: Umbra 3
Company: Umbra Software
www.umbrasoftware.com

Umbra 3, from Finnish technology firm Umbra Software, is the third iteration of the company's visibility solution.

The tech specialises in occlusion culling to help ensure rendered objects are not hidden behind others. The latest version, 3.3, includes new dynamic occluders, which enables devs to use dynamic elements as occluders. The update also made other optimisations for next-gen to reduce draw calls and run objects faster.

To date, Umbra 3 has been used in titles from studios such as CD Projekt, Bungie, Guerrilla Games, Microsoft Game Studios and SOE, and was recently used in *Call of Duty: Ghosts*.

Tech: Bink 2
Company: Rad Game Tools
www.radgametools.com

Since its first iteration Rad Game Tools' Bink video codec for games has been licensed for more than 6,200 games on 14 different platforms.

The latest Bink 2 Video is new high-end video codec that its creator says can be twice as fast as the previous version, thanks to being designed around SIMD, and is suitable for multi-core scaling. The codec can play 4K video frames in 11ms on PS4 and Xbox One.

A number of the company's other tools have also been made available for next-gen development, including the Miles Sound System, Granny 3D, Iggy and Telemetry.

Tech: Simplygon
Company: Donya Labs
www.simplygon.com

Donya Labs' Simplygon tool is designed for the automatic optimisation of 3D game content and level of detail (LODs).

Now in its fifth iteration, the software helps artists save resources and recreating large amounts of content by automatically generating lower-polygon models required for different levels of detail at higher frame-rates, requiring less data.

The tech has recently been used in Quantic Dream's PS3 exclusive *Beyond: Two Souls*, and is also being used by Bungie for its hotly anticipated next-gen MMO *Destiny*.

Tech: Substance Designer 3
Company: Allegorithmic
www.allegorithmic.com

Substance Designer 3 from Allegorithmic assists developers with run-time generation of parametric texture to reduce download size and improve performance.

The suite includes tools such as a node-based workeflow, a batch system that lets devs process numerous meshes and textures simultaneously a a live link with Adobe Photosop.

Substance has been integrated with the likes of UDK and Unreal Engine, empowering next-gen developers. The firm is also gearing up for the release of its fourth major update.

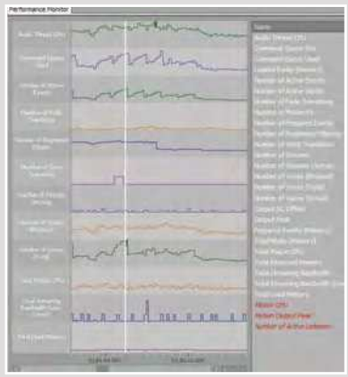
AUDIO

Tech: FMOD Studio
Company: Firelight Technologies
www.fmod.org

Firelight Technologies' audio middleware FMOD Studio has been optimised for PS4 and Xbox One development, providing extensive mixing capabilities and built-in DSP effects to help developers deliver audio in their games.

The company prides itself on providing a new interface designed to be more familiar to using professional digital audio workstations than traditional existing game audio tools.

The middleware is already being used on next-gen, debuting on Xbox one with launch game *8*. For more information turn to page 36.



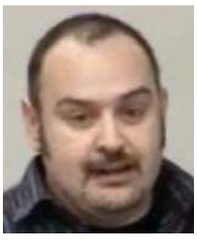
Tech: Wwise
Company: Audiokinectic
www.audiokinetic.com

Wwise is a complete audio pipeline solution developed by Audiokinetic, enabling sound engineers to mix, profile and modify sounds in real-time within the game.

The tool features an optimised sound engine for managing audio processing, including effect and source plugins including 5.1 channel reverbs, parametric EQ and dynamic effect plugins including a compressor, expander, peak limiter, and sine and tone generation. It also includes an event-based authoring tool that can be used for creating audio asset structures and SoundBanks.

Driven by sound

Faced with setting an early benchmark for the audio prowess of the Xbox One, Turn 10 picked FMOD Studio for Forza Motorsport 5, a racer reaching for the next level of realism, as **Will Freeman** finds out



Nick Wiswell (top) and Chase Combs (above) of Turn 10, maker of Xbox One launch title Forza Motorsport 5 (main)

LONG BEFORE VIDEO games came along, automobiles and sound had a special relationship together.

From the belly laugh of a powerful engine and the shrill cry of tyres on tarmac, to the music inside a car and the sound of the world rushing by, it is through sound that people remember cars; a fact that hasn't escaped studio Turn 10, which for years has led development of the *Forza Motorsport* games.

"The sound of a car is so important to the character of the machine," offers Turn 10's audio director Nick Wiswell. "It's such a really big part of everything cars are about, especially when you're driving them quickly. It's a huge part of that experience.

"A car can very much mean something to a person. Everybody remembers their first car as they do with their first record or first girlfriend or boyfriend. Cars can be part of very big moments in peoples' lives, and hopefully people can enjoy better cars as they go through life. And the sound is so evocative of those memories, so we can use that to remind people of times in their lives, or even just a film they enjoy or a race they saw."

And so it was that the Turn 10 team decided they needed to push the audio in *Forza Motorsport 5* like they had never done for the series before. They wanted realism, and they wanted to harness the power of the Xbox One, for which their game was a launch title, but they also wanted to make the next generation *Forza*'s vehicles more evocative.

That meant looking for the right tool for the job, which turned out to be Firelight Technologies' increasingly prolific FMOD Studio, the multi-track music and event editor inspired by the digital audio workstations from beyond the realm of games audio.

SOUNDS PHYSICAL

According to Turn 10, FMOD Studio let the team do much more than just evoke a sense of what cars mean too; it enabled them to build a physicality within the game, which is certainly evident when you play the new release. Hurtling around *Forza Motorsport 5*'s tracks, engine sounds and the rasp of the throttle change as you near walls and pass through tunnels, while it is clear how each tyre behind you is behaving from the distinct noises. Through sound, *Forza*'s world of light and pixels becomes something that feels solid, and it's striking as you play.

> ***"There's been a huge push in graphics to make them feel seated in the world, and Forza 5 has the equivalent of that for sound."***
>
> Nick Wiswell, Turn 10

"There's been a huge push in graphics to make them feel like they are seated in the world, and for me, what we've done with *Forza Motorsport 5* is the equivalent of that for sound," suggests Wiswell. "We've made the sound in the game react to the place that the player is in. It's a realism thing, but it's also a dynamic thing, in that it allows the sound to be constantly changing as you move through the world."

Turn 10 audio content lead Chase Combs adds: "Reverb is part of the glue of a game world. Looking at other games, and even some of our past titles, we started to think about how sounds in games without those dynamic, changing reverbs or delays can leave the game feeling a bit flat. Even being in surround or another format, those games can lack depth, and so we really wanted to give that sense of space. We wanted the player's character – in this case a car – to really feel like it is in a world."

Certainly, it was something Firelight had hoped developers would turn to FMOD Studio for, and they had put much effort into supporting studios looking to embrace reverb in interesting ways. Still, they weren't quite prepared for Turn 10's innovation in that regard.

"We definitely had different approaches to reverb in mind when designing the mixer and made sure we built in the flexibility to cover those," states FMOD Studio's senior DSP developer Gino Bollaert. "However, Turn 10 really did go beyond our expectations. It speaks to the strength of the design. Given the right tools and a flexiblity, anything is possible."

THE DAWS OF PERCEPTION

Of course, for Turn 10 to realise their ambitions with the game's intended reverb

AUDIO TOOLS: THE SHAPE OF THINGS TO COME

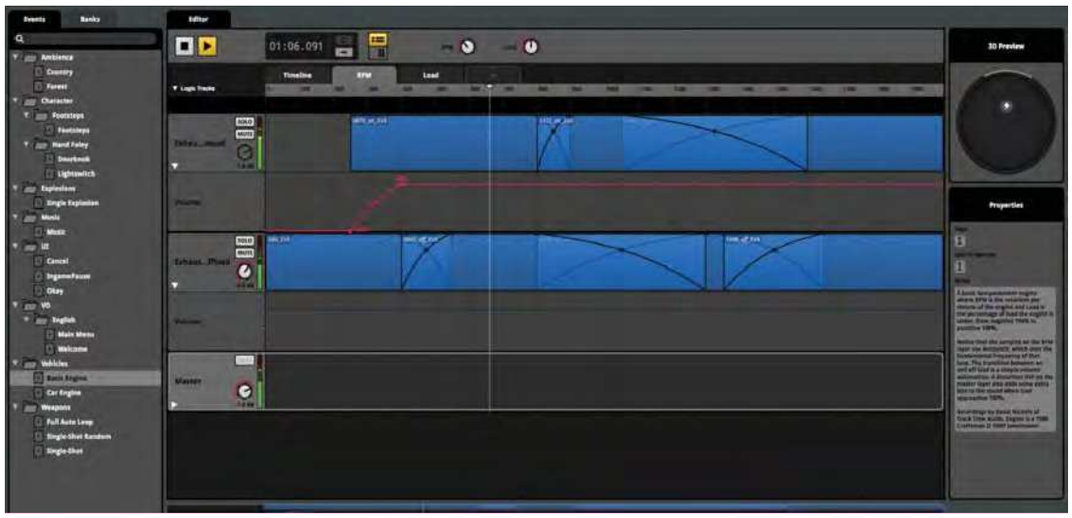
FORZA MOTORSPORT 5 is an Xbox One launch title, and as such both Firelight Technologies and Turn 10 had quite a challenge on their hands, as well as the opportunity to try out the console's new SHAPE audio engine.

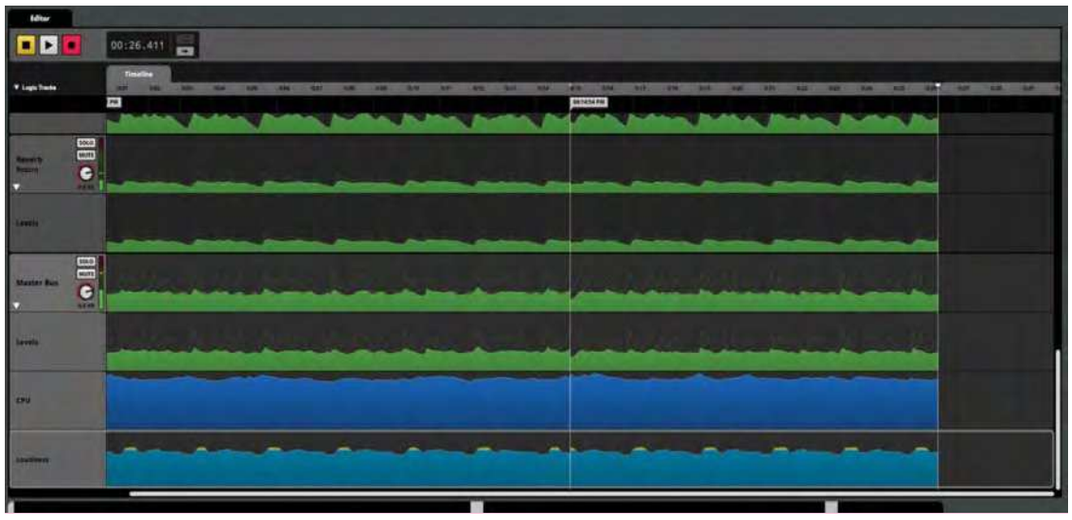
"With *Forza 5* being a launch title for Xbox One, the hardware was still evolving as the game developed," explains FMOD Studio lead developer Raymond Biggs. "We were often the very first to try out new hardware features like the SHAPE audio processor.

"Turn 10 also had very ambitious goals for *Forza 5*. They wanted to push at the limits of the new platform and try out things that you just couldn't do with the previous generation of audio tools. What they've achieved really sets a new benchmark. In many ways it has made us re-imagine what's possible for next generation game audio."

Nick Wiswell, audio director at *Forza Motorsport 5* studio Turn 10, adds: "The power of the Xbox has allowed us to do more things in real-time, and the flexibility of FMOD Studio has allowed our creativity to go wild from a design perspective, and to develop very complex systems in a fairly straightforward way."

For other studios pondering making an Xbox One game, one things seems clear: that SHAPE gives games audio staff reason to be optimistic.





system, the audio team needed to put a huge effort into *Forza Motorsport 5*'s sound, which began when *Forza 4* was still under development. When not travelling the world recording every noise a specific car model puts out, the team were considering how they wanted to build their own mixer, pondering how it should respond, how real time parameters could work, and how sends and returns would function. What started on paper was then built in the ubiquitous Nuendo DAW software.

"Then we were able to take it from Nuendo to the FMOD Studio mixer directly," explains Combs. "We'd previously been using Designer, so when FMOD Studio was announced, the big promise for us was the sends and returns system; this thing of adding auxiliary sends and returns to the middleware; nobody had done that at that point. That is the lynchpin of our entire reflections system."

Mocking up the system in the DAW was done by capturing *Forza 4* footage before exploring how the physics driven audio for the Xbox One debut of the series might work.

"Because FMOD Studio is designed to work like a DAW, we were immediately able to take those parameters that we'd set up in Nuendo, bring them over into FMOD Studio, and with a little bit of fine tuning, suddenly we had it in the game," says Wiswell. "That was really quick to get up and running."

THE PRODUCTION LINE

FMOD Studio also came into its own when Combs lead the work mixing the car models. Having gathered data from the recording of thousands of cars, where microphones took recordings from close to a given car and at distance, the team were faced with a vast library, which needed to be stitched together for each individual vehicle and linked to the game's intricate physics, meaning the player's tiniest control intricacies would impact the sound realistically, taking into account the likes of RPM, horsepower and throttle.

"There are many techniques for doing that, but basically they all revolve around chopping it up in to tiny little pieces that can be stitched back together at run-time," confirms Wiswell. "We record the car accelerating, decelerating and held at steady states, throughout the rev range, and then we take that back, chop it up into those pieces that represent all the phases that a car can go through.

"We build that in FMOD Studio, keeping everything separate. All the different channels that we recorded – the exhaust, engine, intake system and so on – are modelled independently. We stick those back together independently because each one of them reacts differently depending on what the car is doing."

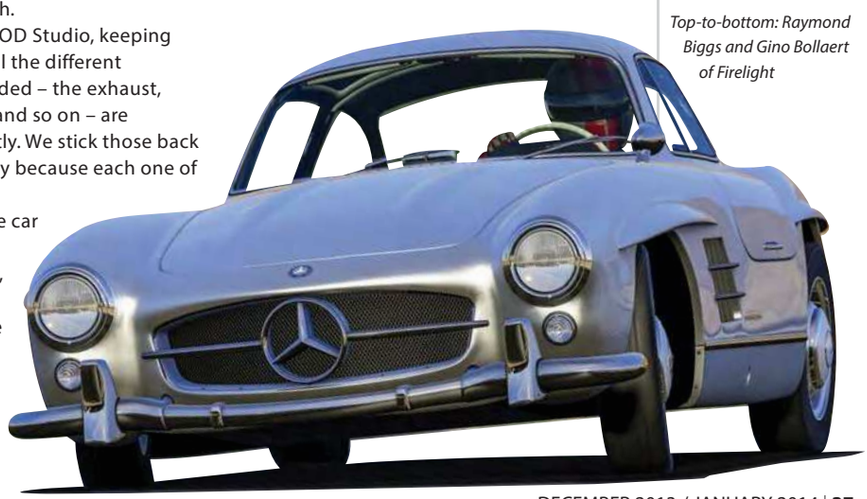
According to Combs, sound engineers working in games have been clamouring for years for the kind of real-time control FMOD Studio offers, having long yearned for simple elements such as fader.

"The ability to be able to mix a game in real-time with faders is awesome," says Combs. "A car mix for me is really very much similar to doing a quick drum mix. You start, usually, with everything at low volume and slowly build it back up."

Listen to *Forza 5* in-game, however, and it seems certain Turn 10 has achieved speed and quality with great success. A core factor in that accomplishment appears to be FMOD, and its role in introducing the interface of the pro audio mixer to games sound.

Looking across the audio landscape, it is apparent the tool should be an influential solution for many years to come. And *Forza* isn't like to go anywhere anytime soon either, aside from tearing off the starting grid. ■

Top-to-bottom: Raymond Biggs and Gino Bollaert of Firelight



A fair fight for all

In the war to keep games balanced, **Aaron Lee** reports on a cheat prevention tool that's taking the fight to the hackers

FairFight analyses gameplay to pinpoint acts of cheating, and has been used in 2Dawn Games' Ravaged: Zombie Apocalypse (main)

TACKLING CHEATS IS a perennial problem for developers producing online games nowadays. Cunning hackers have found ways to exploit almost any glitch in games for anything from XP boosting to bot hacks.

A new piece of anti-cheating software that's being used in DICE's *Battlefield 4* and has already ruffled the feathers of would-be violators is FairFight.

Produced by USA middleware firm GameBlocks, FairFight is an automated cheat detection and suppression system. It's billed as a non-invasive, customisable and game engine agnostic solution to combating those who seek to upset the game experience.

"Existing anti-cheat software is inadequate and allows even unsophisticated cheaters to repeatedly disrupt and undermine gameplay for long periods of time with impunity – to the serious detriment of a game," Edmar Mendizabal, owner of DevSupport, GameBlock's business development consultant, tells *Develop*. "Information travels fast in the games community, and if a game is or becomes infested with hackers, this deters honest players from buying or recommending the game."

DROPPING THE BAN HAMMER

Using FairFight, developers have the ability to warn, kick, suspend or even ban players.

The system uses two overlapping and mutually supportive methods to identify cheaters: algorithmic analysis of player statistics and server-side cheat detection. FairFight uses algorithmic models to evaluate gameplay against multiple statistical markers to identify cheating as it happens and crosschecks this data using objective server-side tools. When both approaches correlate to cheating, the system takes actions. Because the developers can choose FairFight's tolerance levels and the in-game actions to be taken against cheaters, GameBlocks feels it's giving them far greater control of their games.

"For example, in a given first-person shooter it may be impossible for a weapon to kill – or even hit – a player over 200 yards. When FairFight sees this occur it automatically records it as a validation of any anomalous AAPS (algorithmic analysis of player statistics) findings. With the validation event in place, FairFight will take any number of actions that the developer has selected, and it will do so when they want it to; be it immediately, after a delay, at the player join screen and so on," explains Mendizabal.

> ***"Existing anti-cheat software is inadequate and allows even unsophisticated cheaters to disrupt the gameplay."***
>
> Edmar Mendizabal, DevSupport

Compatibility-wise, the system is server-side, and since FairFight is connected via API, if there are connectivity or security issues, gameplay should continue unaffected while the team works to resort normal service.

Battlefield 4 is the latest product to integrate the system. But its makers say FairFight is capable of catering for more than first-person shooters. The system is ready to tackle any genre or any platform using its adjustable system.

Even so, this isn't the only cheat detection tool out there. PunkBuster, a popular anti-cheat software, has been used by the likes of *Assassin's Creed IV*, *APB* and, incidentally, *Battlefield 4*. And Valve Anti-Cheat also appears in the *Counter-Strike* maker's own titles as well as those by other developers.

FIGHTING THE LAST WAR

However, GameBlocks claims these tools and others are "fighting the last war" by scanning memory in a user's computer.

"FairFight uses a different and, we believe, far better approach," says Mendizabal. "It receives gameplay data from the server and focuses on the gameplay itself to determine if a player is cheating. It has detailed player information, leaderboards and statistical summaries that PunkBuster and VAC do not provide. Our emails provide full reporting, comprehensive chat monitoring, heat maps and more."

For those looking to buy FairFight, studios can choose between a flat monthly subscription fee or one that fluctuates based on the number of unique players per month for its title. There is a minimum six-month commitment, before the charge converts to month-to-month. An additional fee also comes from its WatchDog monitoring tool, which is required by the system.

The tool has been accused by some *Battlefield* users of banning legit players "unfairly". But Mendizabal says that developers can trust in it to bring balance to their online games: "All we ask is that you consider the source. Hackers complain and complain loudly when they get punished. What it means to us is that FairFight is doing its job. You can see that in forum posts complaining about hackers wreaking havoc: once FairFight is up and running they will drop way, way down." ■

www.gameblocks.com

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KEY RELEASE

Will Freeman takes a look at the 2.0 update to texture streaming SDK, Granite

What is it? A texture streaming middleware designed to dramatically reduce memory use or allow for increased use of unique textures
Company: Graphine Software
www.graphinesoftware.com

Graphine CEO Aljosha Demeulemeester (above) says the company's research for its Granite 2.0 update (main) has made its technology more versatile and affordable for small teams

FROM THE IMPACT on a game's download time to the disk footprint of a given title, texture assets are famously tricky beasts, hogging memory with abandon.

And as a result, a range of texturing solutions are available to studios as middleware. One that is rather distinct is the texture streaming approach provided by the Granite SDK, created by Belgian outfit Graphine Software.

The tool began life in a research lab at Belgium's Ghent University, where the Graphine team came together to look at various aspects of compression in an academic context. That group remains core to Graphine, from CEO Aljosha Demeulemeester to CTO and former Splash Damage megatextures expert Charles Hollemeersch.

"Our research was always very practical, in the sense that we always worked in the area of real-time techniques," explains Demeulemeester. "And because of Charles' previous experience in the games industry, a lot of what we built back then was already applicable to the business. We saw then that there was real value in the technology, and since then we have been trying to bring it to the market."

SOLID AS A ROCK

The product has in fact been on the market for some time now, but the 2.0 release serves to make Granite SDK more accessible and increasingly scalable, meaning it is now a practical choice for a far wider array of different studios. But what of the core solution?

"Our Granite SDK technology is actually a texture streaming and compression middleware," confirms Demeulemeester. "The nice thing is that streaming and compression go hand in hand. A good streaming solution needs quality compression, and quality compression is to the benefit of good streaming.

"The product itself is a runtime component which is built into a game, which handles the texture compression, decompression and transcoding, and it's surrounded by a number of tools which allow games developers to import their data into a highly compressed and streamable format that can be used by the runtime.

> ***"A good streaming solution needs quality compression, and quality compression is to the benefit of good streaming."***
>
> Aljosha Demeulemeester, Graphine Software

"What texture streaming does is constantly load data in the background into video memory when it is needed. We say Granite SDK is an advanced texture streaming solution, and in our opinion the reasons that it is advanced are four-fold."

Firstly, says Demeulemeester, Granite SDK offers a highly optimised system that quickly responds to requests for specific data, reducing latency.

Secondly, such efficiency improvements effectively negate the need for the likes of pre-loading and pre-fetching, meaning an overall reduction in the memory required for high quality textures.

The third reason is Granite SDK's focus on minimising disk footprint, compressing data throughout each step of the streaming system, which positively impacts the latency.

All of this means that, finally, Granite SDK should let developers use what Demeulemeester describes as "massive amounts of texture data," or reduce the amount of computer data needed for a given project.

ON THE TILES

In terms of new improvements, 2.0 debuts two significant new elements.

Firstly, it introduces a tiling module. Granite 2.0's new tiling module and full built-in support for hardware accelerated tiled resources provides graphics API-specific handling for most common graphics APIs, meaning the intricate, difficult work such as locking is handled by the SDK itself.

"The 2.0 update also introduces texture atlasing," adds Demeulemeester. "Our previous library was really focused on using very large textures; just putting everything in one huge texture and streaming that in. But in most practical cases developers are going to be using much smaller textures, and a lot of them – sometimes up to 10,000 texture assets. Before you could import that in our system, but now it is a lot easier and a lot more intuitive to stream all those individual texture assets."

The technology originally targeted triple-A studios, but the new accessibility, say its creators, means Granite is now all the more available to smaller teams, who may themselves have been navigating the memory allocation minefield that is mobile gaming.

Evaluation and license details are available at the Graphine website. ■

HEARD ABOUT

John Broomhall talks to Battlefield 4's audio director Ben Minto about DICE's latest work

Battlefield 4
Developer: EA DICE
Publisher: EA
Platform: PC, PS3, PS4, XO, 360
www.battlefield.com

SADLY, THERE'S NO shortage of real-life reference for a *Battlefield* title, courtesy of the world's recent and ongoing conflicts. Visceral footage of the Arab Spring and Syrian situations flood news channels, YouTube and social media sites defining today's sound of war.

Audio director Ben Minto says this can influence how his team approaches each title.

"At DICE, we're constantly evolving source material, benchmarks, processes, techniques and ideas – only towards the last six months' development do we really lock things down," he says. "Each release is like an audio snapshot of the time. *Bad Company* was war as recorded through a Handy Cam mic. *Bad Company 2* was akin to mobile phone recordings uploaded to YouTube. For *Battlefield 3*, the 'unedited war' vibe of contemporary Iraq and Afghanistan documentaries was the benchmark, resulting in a more refined and decipherable soundscape for the game.

"For *Battlefield 4*, we wanted to recapture the rawness of *BC2*, but not at the expense of clarity and readability. And whilst your firearm is the key way you interact with the environment, you have a big part to play too, so we've taken player foley out of the High Dynamic Range mixing system. Now explosions will not cull your footsteps; there's a constant sonic connection between character and world.

"We've also applied learning from Iron Sights/Zeroth Person implementation – so firing from the hip sounds different to firing down the sights – to the foley sounds. We're repeatedly asking how can we bring sounds closer to the player, such as using subtle, neutral self-voice emotes from the ubiquitous 'being shot', to the G-force strains in-cockpit or breathing in water when in danger of drowning.

"We have extended our systems to deal with events near you, and then on you. The sound of a water sprinkler changes when you stand under it and get the 'water on helmet sound', making it personal. This is the 'Go-Pro helmet-mounted camera' take."

MILITARY MIXERS

A recent innovation was achieved by extending the use of context-sensitive dynamic parameter controllers, dubbed 'mixers'. 'Context sensitive' means it can be activated by almost anything: area triggers, scripting logic, number of bullets remaining, health, screen transitions, special events and so on. 'Dynamic' means they can vary depending on external controllers.

Many mixers can be concurrently active and, by applying a hierarchical dominance rule-set, summed together.

Minto continues: "A parameter is any value, not just the 'amplitude', 'gain' or 'loudness' of an individual asset/channel. It can be anything from frequency and pitch, to internally-defined parameters like Area Type (used for selecting gun tails), Storminess (explained below) or even a simple binary Indoor/Outdoor switcher.

"Mixing a storm is difficult within an interactive environment, and more so when you have an automated mixing system trying to help. You want your storm assets to punch through and 'feel' loud but this doesn't necessarily mean 'play' loud. The storm is dynamic in both assets and implementation so a fixed solution would feel unnatural. Our ethos is let the sound come first and then figure how to drive everything from that.

"We took the output of the Storm Sampler Nodes – samplers being the wav container playback entities within Frostbite – into an LPF, then into a VU meter. This is equivalent to an envelope follower; from there the outputted VU level is slewed, clamped and scaled to give us a value between zero and one – this becomes the Storminess parameter, which gives a close approximation to the storm intensity.

"The Storminess parameter is then used to drive other parameters in many different context-sensitive mixers. For the Angry Sea section first shown at E3, the mixers running include a side-chain-like amplitude mixer: the storminess amplitude will reduce volume of buses prior to the HDR, like shouting into the wind, or in some cases give a volume bump.

"The visual swell of the ocean and tilt offset of the deck is controlled by a unique sound patch for the area, and in addition to this we combine the Storminess with the wind direction to further modify the player's pitch and roll, which in turn, is very effective at selling the intensity of the storm effect.

"An additional feature includes a zero-ing of the effect when entering Iron Sights for accuracy, which delivers a tighter more compressed feel to the mix in a smaller, more chaotic window of dynamic range.

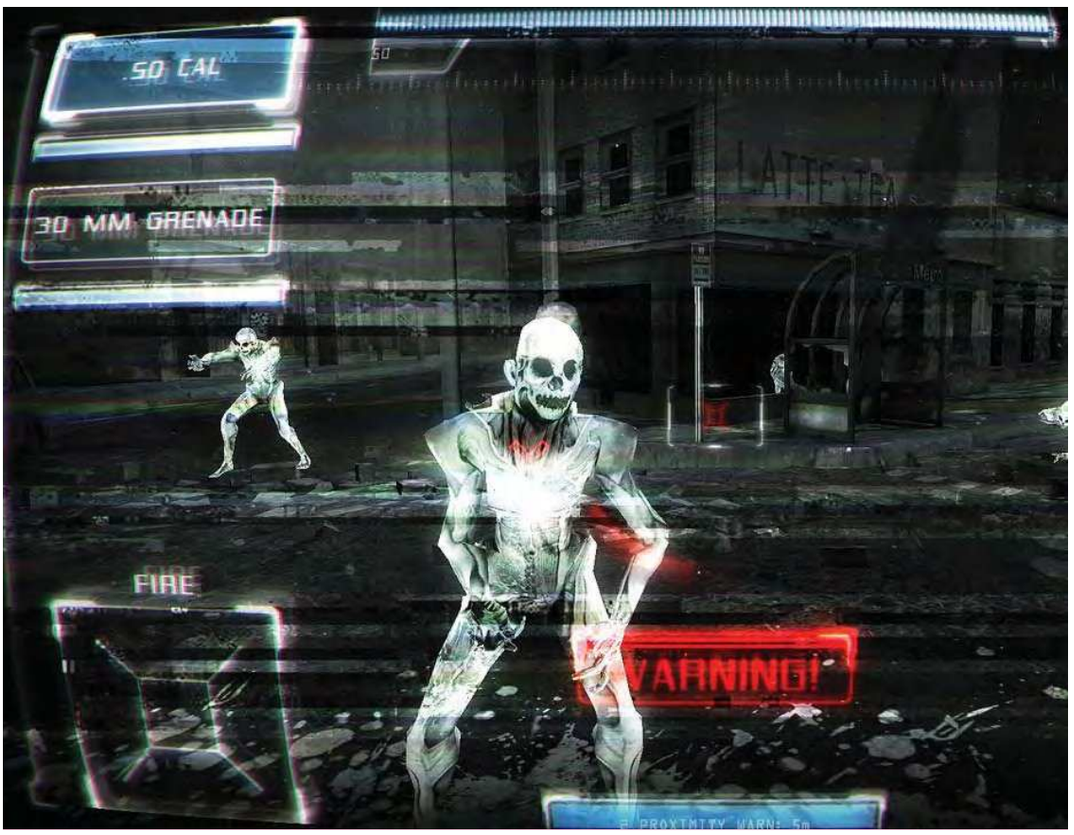
"The envelope follower is just one example of a new core system that enables a tighter synergy between cause and effect. Now, for example, the waveform of the explosion is the key driver for the aftershock visual shake and effect, whereas previously the only connection was initial timing and intention. Now there is an intensity and story-match between the disciplines, creating a more unified experience." ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue. Find him at: **www.johnbroomhall.co.uk**

Ben Minto (above) of DICE's award-winning audio team says it has recaptured the "rawness" of modern combat for Battlefield 4 by altering its approach to sound mixing

UNREAL DIARIES

The small yet powerful BitMonster team discusses unleashing its grittier side



Unreal Engine's efficient toolset enabled BitMonster Games to get zombie shooter Gunner Z almost three quarters of the way to being feature-complete within 60 days

BITMONSTER GAMES was born out of the desire to create high-quality mobile games across a variety of genres.

Former employees of Epic Games, the modest team of six hold credits in numerous games from the famed *Unreal Tournament* and *Gears of War* series. That experience, combined with the need for a powerful engine with an unrivaled toolset and easy mobile deployment, made Unreal Engine 3 the perfect starting point for their technology foundation.

BitMonster made its debut with the award-winning *Lili*, a rich adventure game with clever touches of humour, and then released the charity-based *THRED*, developed in one month through an ambitious collaboration with Coca-Cola and charity (RED).

"One of our big drives is to use the tech to explore making lots of different games quickly," says BitMonster co-founder Lee Perry. "We have interests in all kinds of genres and styles, and want to explore them with titles that take months to make, not years."

Lately, the team has their sights set on creating a new action-oriented free-to-play experience with *Gunner Z* for iOS devices.

UNDEAD WARFARE

Recently released to audiences worldwide, *Gunner Z* is a turret-based shooter that merges simple controls with high-end visuals and, naturally, thousands of zombies to obliterate.

Players mow down the undead in the game's urban battlefield – aesthetically trademarked by ghostly white enemy silhouettes – and kit out their vehicles with destructive weaponry.

It's an enticing prospect, but the mobile gaming market moves at an incredible pace, making development speed a vital factor in building and sustaining consumer attention.

BitMonster says *Gunner Z* was almost three quarters of the way to being feature-complete within 60 days of production, thanks to the high level of efficiency provided by Unreal Engine tools, leaving ample time for testing and promotion.

Creating a game quickly, however, is only one aspect of mobile development. Driven by a sophisticated economy fuelled by vehicle customisation and other in-app purchases, BitMonster's ability to constantly build and introduce new content to engage players is crucial to the game's continued success.

"One major benefit of utilising the Unreal Engine is how fast features come online," remarks Perry.

"We can have a new weapon up and running in just a matter of days, which is critical in a market that lives and dies based on being able to deliver cool updates every few weeks. The engine makes it simple to introduce that content, especially when the in-game interface is laid out to be expandable."

Without the benefit of larger, specialised departments dedicated to individual fields of development, such as animation or lighting, the need for close collaboration and versatility is vitally important. Quite frequently, this means an individual must be capable of performing in multiple roles.

As Perry describes: "We have, for example, no dedicated animator, particle effects specialist or cinematic artist, but the engine's tools to do those tasks are very easy to pick up, so it helps us adapt to creating exactly what we need. So, while we didn't have an audio engineer for *Gunner Z*, the Sound Cue Editor enabled us to make excellent effects. That was exactly what we needed."

MOBILE BATTLEFIELD

While mobile games and technologies continue to evolve, so do the tools available to developers. But, as Perry summarises, whether the developer is well-established or a new enterprise, a large studio or a small team, a major benefit of using Unreal Engine is the wealth of knowledge that already exists.

"Another amazing strength of the Unreal Engine is how many people out there are already familiar with it: students, industry veterans, artists, programmers. It's been a go-to game engine for long enough that the pool of talent you can productively hire is massive."

As for lessons learned about launching a mobile free-to-play product, Perry stresses how important it is to leverage soft launches in emerging markets to quickly work out any kinks prior to large-scale release.

"I can't recommend that step enough – it's critical these days. We ended up with about 20,000 users in four smaller countries for our tests. We were able to find critical issues with in-app purchases, gather loads of great actionable data about the difficulty spikes throughout the game, and distill real world objective data for which items in our game appealed to people enough to buy."

To keep up with BitMonster, check out **www.bitmonstergames.com** and follow **@BitMonsterGames** on Twitter. *Gunner Z* is available for free on the App Store.

UPCOMING EPIC ATTENDED EVENTS

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IndieCade East
February 14th to 16th
New York

GDC 2014
March 17th to 21st
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MICROSOFT SPOTLIGHT

A look at how Microsoft Ventures Accelerator is turning studios, developers and young start-ups into real games businesses

The initiative: Microsoft Ventures Accelerator
Who is it? Run by Microsoft and diverse partners from legal experts to developers
What is it? A practical 12-week intensive accelerator for start-ups working across all platforms with a great idea looking to become a fully sustainable studio
www.microsoftventures.com/accelerators

LAST MONTH, *DEVELOP'S* Microsoft Spotlight looked at how Whispering Gibbon was using the Microsoft Ventures Accelerator to evolve as a games maker.

Back then the team was settling into the mid-stretch of the 12-week intensive programme, which serves to develop the skills and business acumen of promising early stage start-ups with a great game idea and an open mind to learning about what it is to be a sustainable studio.

This issue we return to the London-based element of the global Microsoft Ventures Accelerator programme, the first cycle of which concluded as this very magazine arrived with *Develop's* army of subscribers, to look at how the studios involved have changed, and what those behind the programme have learned, as they prepare to welcome a new wave of eager start-ups.

OPEN FOR BUSINESS

So what does the Ventures Accelerator hope to achieve? According to Anand Krishnan, UK developer lead for Microsoft, it's about sharing the knowledge that is vital to making a creative team a sustainable business without dampening their indie spirit.

"Some of these teams that joined London's first Ventures Accelerator like GallantCloud were really just a group of people – really just gamers with a passion to make games if I'm honest – so we've had to work with the teams to help them learn the basics of business, and how to create a company and a share structure," confirms Krishnan.

"Then, working with mentors from studios like Lionhead and Lift London, we helped them with their ideas and with turning those ideas to a prototype. While we are teaching the teams how to become sustainable businesses, that' doesn't mean we have to kill passion or ideas. That's not the case at all. You can be both a creative studio and a business. The Ventures Accelerator is about giving the teams enough so that, after 12 weeks, they are a bona fide studio with enough confidence in their knowledge to operate as a true company."

As well as technical advice from Microsoft's own array of experts and its partners, the teams on the Accelerator also get mentoring from start-ups that have risen to success, legal professionals, and specialists like tax and audit operation KPMG.

> ***"The main thing is that we're more of a business now. Before we were really just an indie with ideas."***
>
> Joe Stevens, Whispering Gibbon

"The whole point is that, at the end of the 12 weeks, they emerge as their own true studio that can stand on their own two feet, and take their own passion and enthusiasm and run with them as a full company," explains Krishnan.

FUTURE READY

And for the teams that took part in the Ventures Accelerator's debut London programme, that concluded with them pitching to real VCs and enterprise outfits in the opening days of December, learning the value of being a business has been vital.

"The main thing is that we're more of a business now, whereas before we were really an indie with ideas," states Joe Stevens, founder and director of Ventures Accelerator studio Whispering Gibbon.

"Now we're both. We're an indie business. It's helped us get that confidence that the business side of our studio makes sense, and that we work as a studio that way. We feel more credible now, and we know what we're doing on the business side."

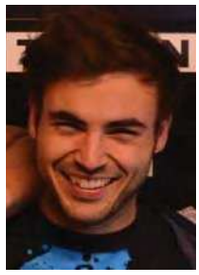
Ben Cooper, artist at fellow Ventures Accelerator graduate GallantCloud, echoes Stevens' sentiments: "We've learned about how to be a business, and that's been really important for us, because it means we'll be able to make our game something that more people will get to play; something that will get out there.

"It has helped us feel more confident as a team, but we still feel we're the same team we were when we started."

And for Microsoft, the Ventures Accelerator itself is growing and improving, much like a start-up, to help the teams it serves better meet the needs of a changing industry.

"We treat the Ventures Accelerator as a start-up itself," reveals Krishnan. "It's a young brand, but it is run by very knowledgeable people that have come from the start-up world. We've always been honest about this, and that we don't want it to monopolise or disrupt the space; we want to compliment it, so we're learning – like a start-up – and changing a little of the syllabus and the structure. We want to work very closely with the start-up space and partners to make this really work for the teams involved, and it's here to stay."

So far, it seems like it is certainly working, and it isn't going anywhere. To find out how to take part in a future Ventures Accelerator, visit the official website (above).



Microsoft's Anand Krishnan (top) has played a key role in the Ventures Accelerator program, working with Whispering Gibbon's Joe Stevens (middle) and GallantCloud's Ben Cooper (bottom) to launch their new businesses

MADE WITH MARMALADE

How Marmalade helped a pair of mobile developers resurrect two Activision IPs for today's players

Blur Overdrive
Developer: AppCrowd
Platform: Android, BlackBerry, iOS
www.appcrowd.com

The Activision Decathlon
Developer: Biodroid Entertainment
Platform: Android, BlackBerry, iOS
www.biodroid-entertainment.com

Why Marmalade Mattered: It enabled AppCrowd and Biodroid Entertainment to tackle reinventing two different established IPs with speed, and to Activision's high expectations
www.madewithmarmalade.com

Top-to-bottom: Ricardo Flores of Biodroid and Rik Alexander of AppCrowd

WHEN LONG-STANDING games industry giant Activision was looking to take two of its very distinct IPs to mobile, it turned to technology specialist, developer and publisher Marmalade.

The team at the triple-A powerhouse had decided 2010 console racer *Blur* and the vintage 1983 sports compilation *The Activision Decathlon* were the perfect titles to reinvigorate on mobile in 2013, and that Marmalade was the ideal technology – and company – for the job.

Marmalade, of course, is behind its own prolific, C++ based, famously efficient SDK of the same name, and as such sits at the centre of a global hub of developers. That let Marmalade pick what it deemed to be the perfect partners for the development of each game.

As a result, UK studio AppCrowd took on developing *Blur Overdrive*, realising the IP as a high-energy freemium game in the spirit of its forebearer, while Portuguese outfit Biodroid Entertainment focused on bringing *The Activision Decathlon* forward 30 years to meet the expectations of today's consumer. Both are now available on Android and iOS, and are published by Marmalade Play.

DOUBLE QUICK

As it transpired, Activision needed a great deal from the two studios. Dependable technology was essential, and teams that could reliably handle the IP in question were vital, but of equal importance was that the games needed to be developed quickly. Which is where Marmalade came in.

The SDK is known for letting developers build games with blistering speed for deployment to numerous platforms from a single C++ codebase, and it is those very strengths that let Biodroid and AppCrowd meet Activision's requirements.

"With a small team, budget and only a six-month time frame in which to make *Blur Overdrive* the best it could be we had to be very clear about our ambitions and priorities or we would have never finished it in time," reveals Rik Alexander, CEO at AppCrowd.

> ***"As we were starting from a standstill with no other tech base, we needed something that would give us the best head start."***
>
> Rik Alexander, AppCrowd

"As we were starting from a standstill with no other technology to use as a base, we needed something that would give us the best head start for the project. It had to be easily useable, enable us to develop rapidly with as few hitches as possible and give us the ability to realise our grand ambitions both visually and from a gameplay perspective."

According to Alexander, Marmalade delivered just what was needed; a suite of relevant tools, a range of connected services and support, a pipeline perfect for the job in hand, raw power for the target devices and the ability to work to the six-month deadline. It may have been Marmalade that reached out to AppCrowd, but it was Marmalade's tools that supplied the studio with the perfect tech for the job.

Sports game specialist Biodroid had a similar experience with its work on *The Activision Decathlon*, and, faced with a similarly tight deadline, was able to leverage the very abilities that have made Marmalade a firm favourite with developers of every size globally.

"On the development-side, having a single code structure to deploy to all mobile platforms made us organise the development process with that in mind from day one," says Biodroid head of games Ricardo Flores of using Marmalade to tackle reinventing closely guarded IP in a fleeting timeframe.

"Building and integrating all social and multiplayer plug-ins was also simplified since they were supported by the SDK. So we can say that Marmalade helped us speed-up the last mile and allowed the dev team to focus on game polishing and visual effects instead of worrying about performance issues."

THE POWER OF TEN

For AppCrowd, the opportunity to work on the *Blur* property also meant the team needed to be flexible with its headcount, and again, it was Marmalade that ticked all the right boxes.

"Our approach enables us to 'breathe' our headcount for each project we do. Marmalade is so widely used nowadays finding good people with experience is easy," reveals AppCrowd's Alexander. "We also hired a couple of people without experience who quickly got up to speed with the tools and technology."

Ultimately, Marmalade's diversity as the creator of a robust SDK, a developer and a publisher let it pair high profile IP from an industry giant with the right technology and the perfect teams. ■

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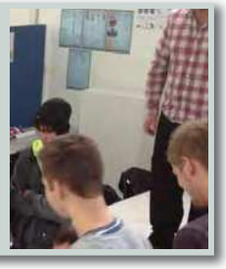

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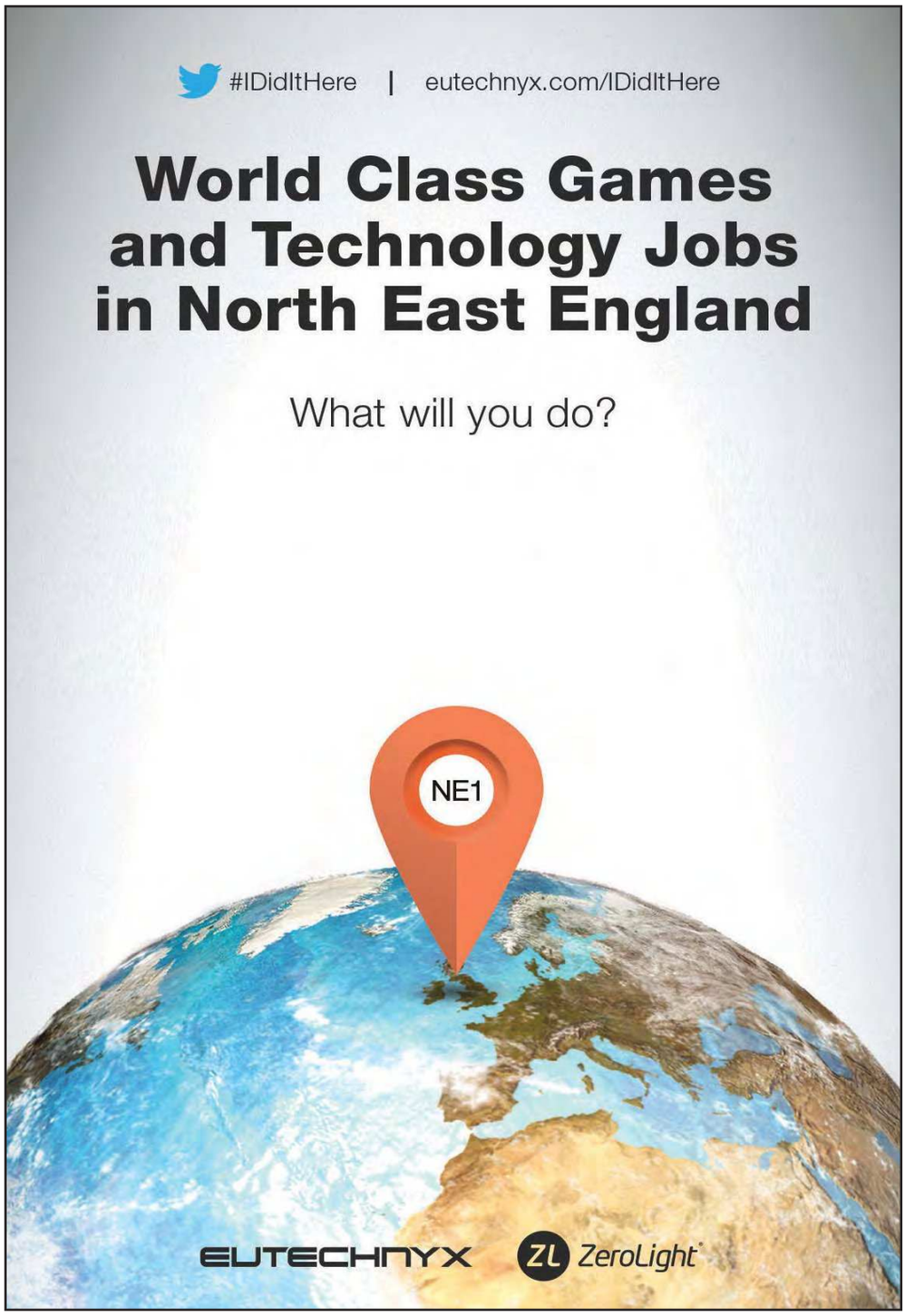


RECRUITER HOT SEAT

HR manager **Emma Phillips** gives you the lowdown on Pitbull, its vacancies and its involvement with Unreal Engine 4

What differentiates Pitbull Studio from other developers?
The majority of what we do at Pitbull Studio is development work on Unreal Engine 4 – working with Epic Games to make sure that the engine and editor are world-leading. To that end, we've filled our studio with the best of the best. Our recruitment bar is much higher than most other studios because we're hiring very experienced, highly skilled engineers to work with us.

How many staff are you currently looking to take on?
We don't currently have a limit on intake. We're hoping to grow to between 70 to 80 people by the end of 2014 – although we could hire more if the right people come to us.

I joined Pitbull in December 2012, and in that time our staff numbers have doubled. We've also opened two new studios – Guildford and Leamington Spa – and we've expanded our HQ in Sunderland. We've plenty of space to welcome new recruits.

We are predominantly looking for programmers to join any of our offices, and current vacancies can be found at **www.pitbullstudio.co.uk/jobs**.

What perks or privileges are available to staff at your studios?
Pitbull offer a fantastic benefits package. We have a company matched pension scheme, a tax-free bike scheme, a Death in Service policy, 25 days holiday per annum (plus bank holidays), a comprehensive private healthcare and childcare scheme and flexible working hours. Not to mention all the usual perks that seem par for the course in the industry, like a well-stocked drinks fridge and treats cupboard. We're also a social bunch, and like to make the most of the nightlife Newcastle has to offer.

What should aspiring developers do with their CV to get to an interview?
We receive a lot of CVs, and it always surprises me how simple things such as spelling, grammar and formatting are overlooked.

The recent viral of Robby Leonardi's interactive résumé shows how you can let your imagination and skills speak for themselves, but, of course, not everyone has the time to create a masterpiece like that.

The best advice I can give is to make sure you tailor your application to the role you're interested in. This may sound obvious, but some people submit CVs that suggest they're a jack-of-all-trades to cover every possible vacancy we have.

Our roles are very specific, and while programming boils down to core languages, mentioning experiences and projects that demonstrate you match the person specification will make you stand out from the crowd.

What advice would you give jobseekers for a successful interview at Pitbull?
We sometimes conduct our technical interviews via Skype, so it's important to make sure you're sat somewhere calm and quiet, ready for the interview at least 15 minutes beforehand. Above all, be yourself.

BIO
Name: Emma Phillips
Title: HR Manager
Developer: Pitbull Studio
www.pitbullstudio.co.uk/jobs

GET THAT JOB

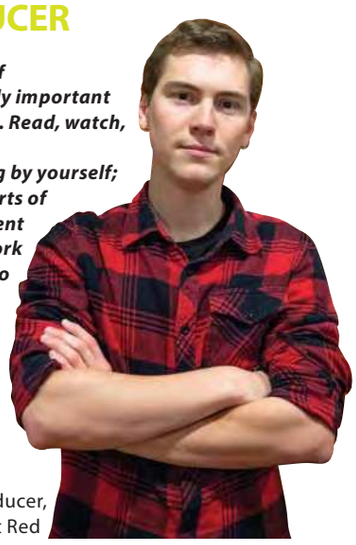
Development specialists offer advice on how you can bag that career leap

THIS MONTH: ART PRODUCER

"Know your game: The enormous number of dependencies in game dev make it extremely important to know the game you're making inside-out. Read, watch, talk and, above all, play.

"Empower others: You can't do everything by yourself; make team members responsible for key parts of the development process. Trust the judgement of your team and praise them when their work deserves it. All this will give you extra time to look at the bigger picture and mitigate risk.

"Always tell the truth to the team: People need to trust you in every aspect of their work. Respect them and always be honest, no matter how bad things get. They'll depend on you to deal with problems, and you'll be there to take care of them. Just let them know that."



Michał Stec, Art Producer, CD Projekt Red

SIX-SECOND STUDIO SPOTLIGHT

- *Engine Room Games'* Alex McLean says he and his co-founders wanted to form a studio "comprised of the most experienced and capable people we'd encountered in the industry"
- Its team of seven is looking to rise to around ten
- Engine Room's three directors have worked together for over 20 years on all platforms and genres
- Its main focus is developing on Unity for Sony platforms, including PS4, PS3 and PS Vita
- It currently has two studios: its headquarters, located in Bristol, and a recently opened satellite office in Stratford-upon-Avon
- Engine Room turned five this year.

www.engineroomgames.com

“Our best interviewees have been those who are enthusiastic about the prospect of working with us.”
Emma Phillips, Pitbull Studio

Put yourself forward as you would if you were working for us. Don't be arrogant, don't be quiet – just try to relax and enjoy the interview as much as you can. If you feel like nerves are getting the better of you remember to breathe deeply. We're human too, and we've all been through the same process in the past.

Our best interviewees have been those who are enthusiastic about the prospect of working with us, who have done research about Pitbull, and who clearly know their stuff. This is not something you can prepare for by swotting up on C++ as you can't second-guess exactly what will happen when the time comes.

One interviewee was so awesome our interviewer said in his feedback he felt he'd learned a lot himself during the hour and couldn't wait to work with him. He's our benchmark for interviews now.

Why should developers join when going indie and self-publishing has become so much more accessible?
Going indie seems to be very popular at the moment, but there are lots of people with a similar idea. Buoyed by the success of *Candy Crush* and the like it will be difficult to create a niche for yourself in a saturated marketplace.

In my opinion, it is better to work at a larger studio to hone your skills, and work in your spare time on your concept. Ideas unfortunately don't pay the bills and self-publishing can be a costly affair. The industry is a fickle one, and not every game will sell like *Grand Theft Auto V*.

What's different about the recruitment process at Pitbull and the impact you have on it?
As HR manager, I lead on the recruitment process in the company. My aim is to deal with all CVs promptly, as based on my own experience there is nothing worse than not hearing back after applying for a job. It has been commented on by recent candidates how unusual it is have interviews arranged so quickly, or to have been made offers within a day or so of interview. Because we don't use recruitment agencies and handle everything in-house it cuts out the 'middleman'. I deal with candidates from start to finish; I'm even the person who usually inducts them on their first day. It's those personal touches that make us unique in the industry, and I hope that as we expand I can keep being as involved in the process. It's a lovely feeling being able to offer someone a job.

The majority of our hires are through staff referral, or people who have applied to us directly through the website. It is more anonymous this way, especially if you're employed by another games company. Social media is also another medium – I was hired via Twitter. All of our staff are well connected, and because of their enthusiasm for the work we do they encourage their peers to apply. Those who work for us are possibly better placed to assess a cultural fit than an agency who also works for our competitors. We'd much rather pay a bonus to an employee so they can buy a new console.

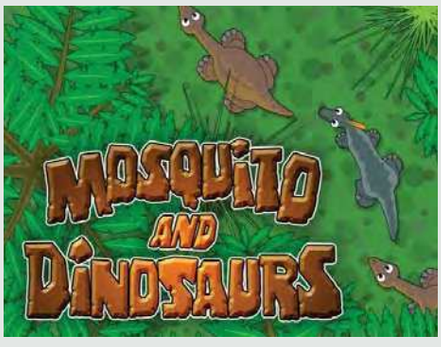
NEW STUDIO ALERT!

Having had their fill working on big projects for publishers, Anya Linley (*top left*) and her husband Ed Linley (*bottom right*) started Team Popo after the unfortunate collapse of Blitz Games Studios in September.

"For us, starting our own indie games business was a way of getting back some of that creative freedom you only really get from being your own boss and developing original ideas from scratch," founder Anya tells *Develop*. "With Blitz going under, Ed, along with many of our friends, have been made redundant, so it has been a hard time for a lot of people."

The couple are using GameMaker to make 2D mobile games for multiple platforms. Its second game, *Bullet Pea*, is expected to be released in 2014.

"We want our games to be a little quirky and original. We believe that free-to-play is the way forward and are experimenting with different ways to make it work without taking away the fun," says Anya. "I think it's pretty exciting that the rise of mobile gaming has enabled true indie development like this to flourish as it once did back in the days of the Spectrum. It really is possible for one or two people to make a small but decent game in a few months from their own home – that can't be said of console games."
www.teampopo.net



MOVERS AND SHAKERS

This month: Eutechnyx, UrCase, Testronic Labs, Digital Capital and Develop

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Video Games Recruitment

EUTECHNYX ■ **DARREN JOBLING** has been named the new CEO of *Auto Club Revolution* developer Eutechnyx as part of a leadership shake-up.

In his new role, Darren has been given reign to further develop the studio's publishing activities, as well as drive company growth. His brother and former CEO and founder Brian Jobling has been appointed as executive chairman, and will work with venture capital partners Prime Ventures and Northstar Ventures.

He has been tasked with searching for new opportunities for the firm inside and outside of the games industry.

"Eutechnyx has a reputation for identifying and rapidly capitalising on changes in our industry," said Jobling.

"This strategy has enabled us to lead the way on a number of fronts, including free-to-play publishing and alternative sources of project funding.

"Eutechnyx is now investing across a diverse portfolio including console, mobile, tablet, free-to-play and non-games applications for the technology industry. I believe that these initiatives will enable Eutechnyx to maintain our position at the forefront of an industry undergoing a seismic change."

Eutechnyx has been operating for over 25 years and has offices in the UK and US.

URCASE ■ Having previously worked in the UK at studios such as Sumo Digital and Bossa Studios, **YOSHIFUSA HAYAMA**, has formed a new independent studio in Japan.

Called UrCase, the Tokyo-based developer is currently working on several new projects, to be announced in 2014.

Revealing the news exclusively to *Develop*, Hayama, who was formerly executive producer on *The Last Guardian* and a vice president at SCE, said the new independent studio would staff a small team of developers, and has no plans to scale up to a large company.

"I'd rather expand this sort of new collaborative development with new partners rather than expand my company to a massive-sized empire," he told *Develop*.

For its first project, UrCase is working with a UK-based technology company.

Hayama said he wants to combine the best of both UK and Japanese development cultures.

"Consumers and trends have changed so quickly in the past five years, and even quicker these days," he said. "However, I know there's a great side to Japanese games development, so I hope I can be the one who makes something new and unique that people will remember."

TESTRONTIC LABS ■ Testronic Labs has appointed **STUART RICE** as its new director of marketing.

Rice's job will be to implement a new global marketing strategy across the firm's four businesses: games, software, entertainment and hardware. His primary goal will be to ensure a smoother synergy between marketing and sales, providing visibility to its target audience, while at the same time building a larger funnel of prospective clients for its sales team.

"By using different marketing channels which have not been used before at Testronic and measuring the ROI for the new marketing activity, we will be better placed in 2014 to fully understand the key metrics to help grow revenues," Rice told *Develop*.

Dominic Wheatley, CEO of Catalis Group, added: "Stuart's marketing strategy will be paramount to Testronic's growth in 2014 and beyond."

DIGITAL CAPITAL ■ Entertainment apps and games investment firm Digital Capital has appointed **PATRICK SWEENEY** as chief legal officer.

Sweeney brings 15-plus years of experience in negotiating licence and development agreements, contributing to the release of over 250 games, including franchises such as *The Witcher*, *DayZ*, *Magic: The Gathering* and *Hawken*.

In his role at Digital Capital, he will assist the company in all of its legal and business affairs as it grows its portfolio of investments and projects.

DEVELOP ■ *Develop* has hired **KATY BENSLEY** as its new sales executive.

She will be working alongside sales manager Alex Boucher and will consult with companies about opportunities for advertisers and recruitment agencies.

Bensley has previously held sales positions at *Hello* magazine, *Wealden Eye* magazine, Agenda Recruitment and Digital Visitor, with a strong knowledge of the digital advertising market.

"I am excited to be joining this market leading brand in this fast-moving industry, and being part of the *Develop* team," said Bensley. "I am very interested in the fast-changing games development market, how it works and fits with my previous background in the digital and social media arenas."

katy.bensley@intentmedia.co.uk

Services & Tech Recruiter Hot Seat

Simplygon co-founder **Martin Ekdal** talks about his studio's 3D optimisation tech and openings at the Swedish tool maker

What makes Simplygon different from other graphics companies?
Have you seen our T-shirts? I'm not sure we are that different, we are just a bunch of guys and girls hell-bent on developing and delivering the best 3D-optimisation solutions in the world. We strive to deliver an awesome product to the games industry so our customers can focus on creating great games and focus on creativity rather than tediously recreating art resources.

And what tools do you provide?
We have licensed Simplygon, the leading 3D optimisation tool, for over 100 triple-A PC, console and MMO games, including a significant number of next-gen titles. Our customers create their art assets and then rely on Simplygon to create all LODs and optimised versions. Some games released lately that we are proud of are *Beyond: Two Souls*, *Batman: Arkham Origins*, *Final Fantasy XIV*, *Lost Planet 3* and *GTA V*.

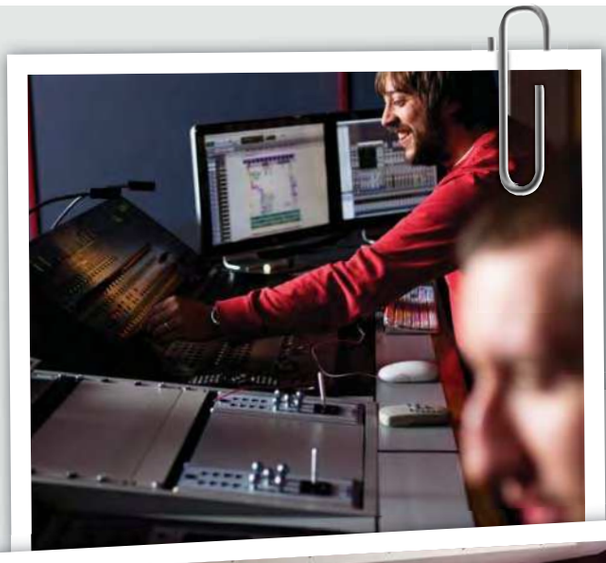
What disciplines are you in need of?
As an R&D and tech-heavy company we are usually on the lookout for talented programmers.

Currently, we are looking for a web developer to support our new cloud service. We are also seeking more people on the business side of things. As Simplygon is very much an art tool we have an in-house artist and we will be definitely hiring more in that department down the line.

What benefits do you offer?
As all Swedish companies, I believe we are offering really good basic working conditions, like five weeks of paid vacation. Things that are more specific to us is that we send everyone in the team to at least one conference per year (most people choose GDC); and we offer 5,000 SEK every year for health benefits, such as gym membership, a bike, massages, etcetera. Though not a benefit per se, a cool thing is that we don't have crunch – and I'm not just saying that.

What career opportunities exist?
We definitely recruit internally for lead positions. We would not go out of our way to find someone if there are capable people already in the company. At the same time, if you'd rather be a specialist that is not a problem – but excelling at something does not automatically make you a good lead.

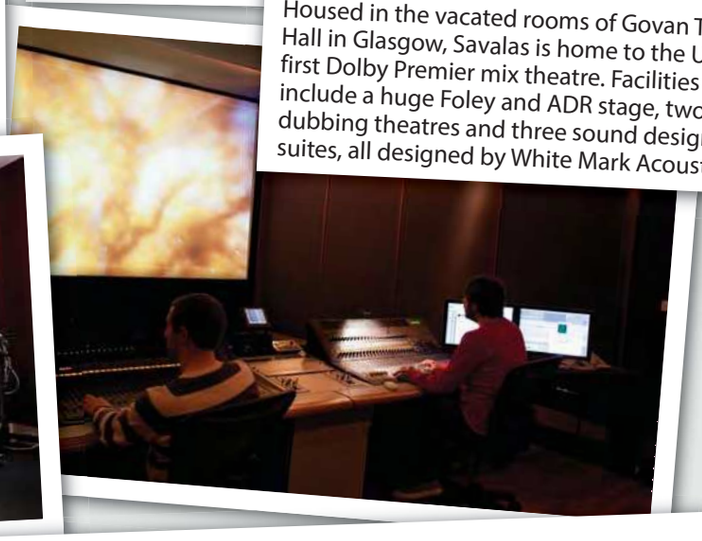
Why should perspective employees choose graphics middleware?
Because it is fun. Working with Simplygon means that you are part of an awesome group of people – it is highly challenging but very rewarding.
www.simplygon.com



Savalas Sound

Glasgow, United Kingdom
www.savalas.co.uk

Housed in the vacated rooms of Govan Town Hall in Glasgow, Savalas is home to the UK's first Dolby Premier mix theatre. Facilities also include a huge Foley and ADR stage, two dubbing theatres and three sound design suites, all designed by White Mark Acoustics.



THIS IS **WHERE WE WORK**

Guerrilla Games

Amsterdam, Netherlands
www.guerrilla-games.com

Located near Rembrandt Square, part of Amsterdam's historical district, the walls inside Guerrilla Games are covered in the iconography of its *Killzone* series.

SERVICES SPOTLIGHT

This month: **VMC Game Labs**

VMC GAME LABS has specialised in games outsourcing since 1999, and today provides services to support vital stages of games development, publishing and distribution.

The firm provides quality assurance and testing; PC compatibility, console compliance, mobile and tablet services and beta stress-testing. It also offers live game and player support, community management, translation, proofing, audio and localisation. For its judicious work, it topped the Services category at the Develop Awards 2012.

"VMC's differentiators as one of the industry's leading games services companies include the ability to provide repeatable, flexible and scalable solutions with a fine-tuned project start-up approach, state-of-the-art facilities and quality of services combined with extensive experience in building long-term partnerships," says VMC games director Ben Wibberley.

"VMC strives to set the games production support services standard for the industry."

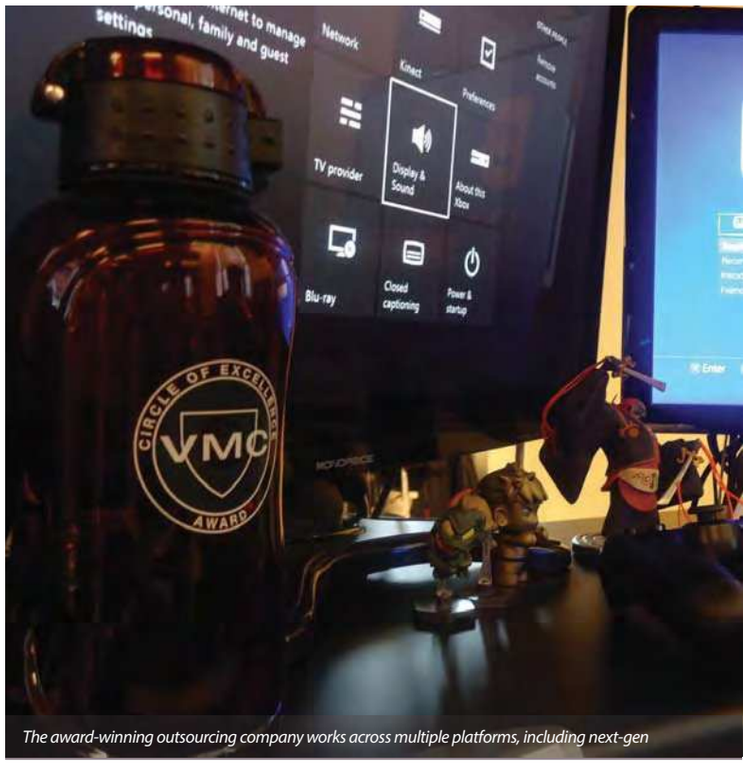
In starting any project for a client, VMC's first studies and mirrors its client company's mindset and operational processes in order to blend in its development efforts and become an extension to client's production cycle.

Once this acclimation phase has concluded, VMC shifts its efforts toward quality and quantity of production, setting higher thresholds to meet than initially set by the client. This approach, says Wibberley, allows for more satisfying metrics without the need for increased management or supervision from its clients.

Besides the 'usual' commodity services that are expected from outsourcers, some specific examples of how VMC has provided its production support services include building a dedicated, private beta tester network for console, PC and tablet for a range of titles, from free-to-play to triple-A.

Its global network of thousands of testers has proved extremely useful for not only the stress testing of maps and servers, but also tackling issues with things such as matchmaking and clan management systems that cannot be anticipated until a game is actually live.

VMC has a number of new things in the pipeline, but wasn't able to share them with us at this time. However,



The award-winning outsourcing company works across multiple platforms, including next-gen

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W: www.vmc.com

VMC's Wibberley says the firm offers access to knowledge perhaps only previously seen at large publishers

with its automation QA services – that's quality assurance using programming and algorithms for better efficiency – the firm feels it is leading the industry, particularly for live games.

> ***"In the world of self-publishing, many devs need services that don't become a drain on profitability."***
>
> Ben Wibberley, VMC Game Labs

Wibberley explains: "Automation testing helps reduce QA costs drastically for our clients, while streamlining a lot of the required coverage for increased efficiency.

"On the other end of the spectrum, our Live Games Operations group is growing daily and we're looking at a couple of very interesting models that would alleviate the ebbs and flows of these groups between content drops while increasing the overall quality of the game."

Wibberley says that many developers feel that they do not need to do their own QA and often leave publishers to take care of it. He says, however, that any production support services being handled by a publisher not only lead to reduced royalties and profits, but also to reduced control of the games development process and vision itself.

"In the world of free-to-play and self-publishing, many developers need services that don't make sense to scale up internally or that are outside of their core competencies. These can distract from the production of the game itself, or become a major drain on the bottom line and profitability," he concludes.

"Working with VMC Game Labs, you get the benefit not just of massively scalable global resources, but of deeply experienced teams that allows you access to talent and knowledge that previously might only have been found within larger games developers and publishers."

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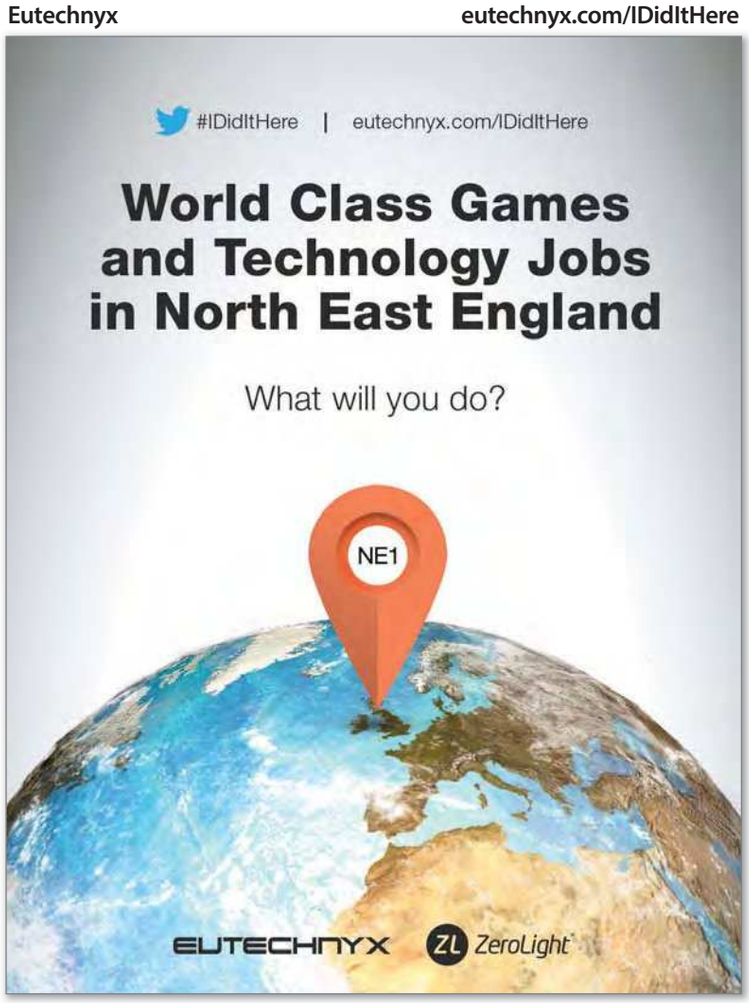
Eutechnyx **eutechnyx.com/IDidItHere**



TOOLS SPOTLIGHT

This month: **FPS Creator Reloaded**

THE MAKERS OF FPS Creator Reloaded have big ambitions for their engine. Conceived as an affordable tool for entry-level and professional devs, Lee Bamber (*pictured far right*) and Richard Vanner of The Game Creators want their upcoming engine to be "the de facto standard by which all other games making products will be compared".

The original FPS Creator was released in 2005. Self-funded and coded from scratch in DarkBASIC Pro, it became TGC's most successful product. Last year, TGC decided to reimagine the whole product, launching a crowdfunding campaign for Reloaded that failed to hit its funding goal, but the process led to it connecting with a sole investor who funded the project.

"Our design philosophy is to create a solution that ensures ease of use for everyone who has a game idea to make," explains CEO and lead developer Bamber. "Game engines can become over bloated, complex and only aimed at the professional developer market. Reloaded is the culmination of everything we've learned so far about games making, not just for the elite, but for everyone.

FPS Creator Reloaded is designed to be an affordable and easy-to-use tool for beginner and professional developers alike

"When you select a building or character for your game, it should just work in the gameworld. Users can make games with ease and can also drill down and start creating events in an easy-to-learn way."

Bamber says that Reloaded employs all the popular features found in the most expensive game engines, but does not penalise users with high price tags, royalty contracts, licensing restrictions or a dependence on additional pipeline tools. He sees it as an all-in-one solution, combining game dynamics, AI, physics, shaders, weapon systems, real-time shadows and lighting, integrated debugging and a library of assets.

> ***"Users can make games with ease and can also drill down and start creating events in an easy-to-learn way."***
>
> Lee Bamber, TGC

Furthermore, says Bamber, what separates Reloaded from the behemoths of the engine space is its community. Reloaded's continued

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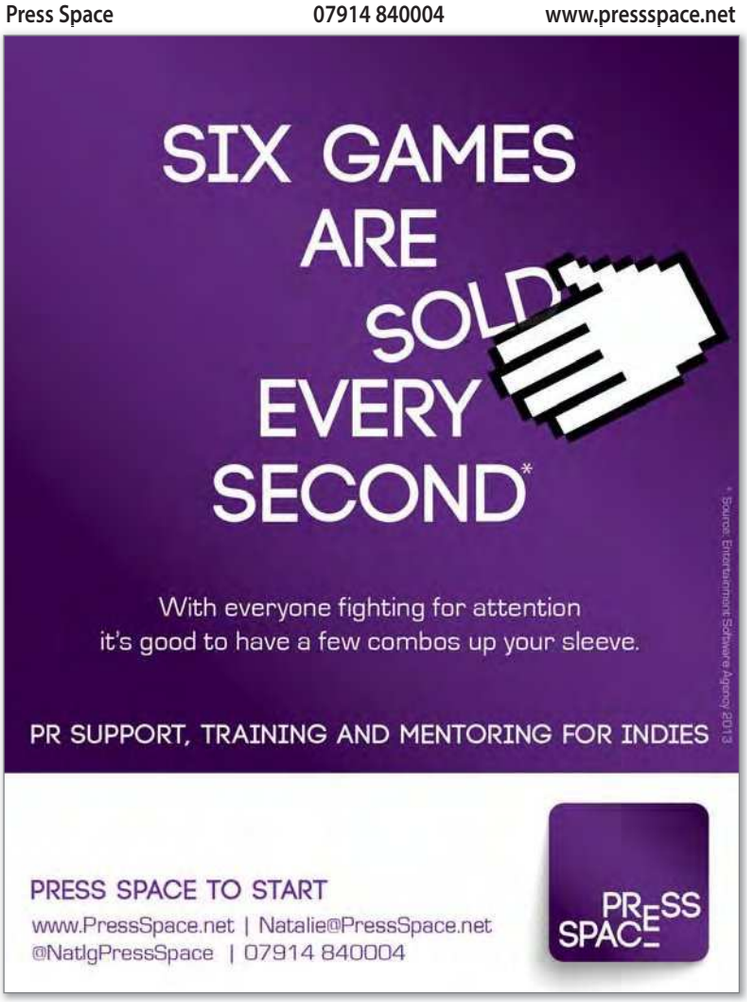
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development is being supported by a new crowdfunding effort, and TGC has invited fans to pledge money and play an active role in deciding new features.

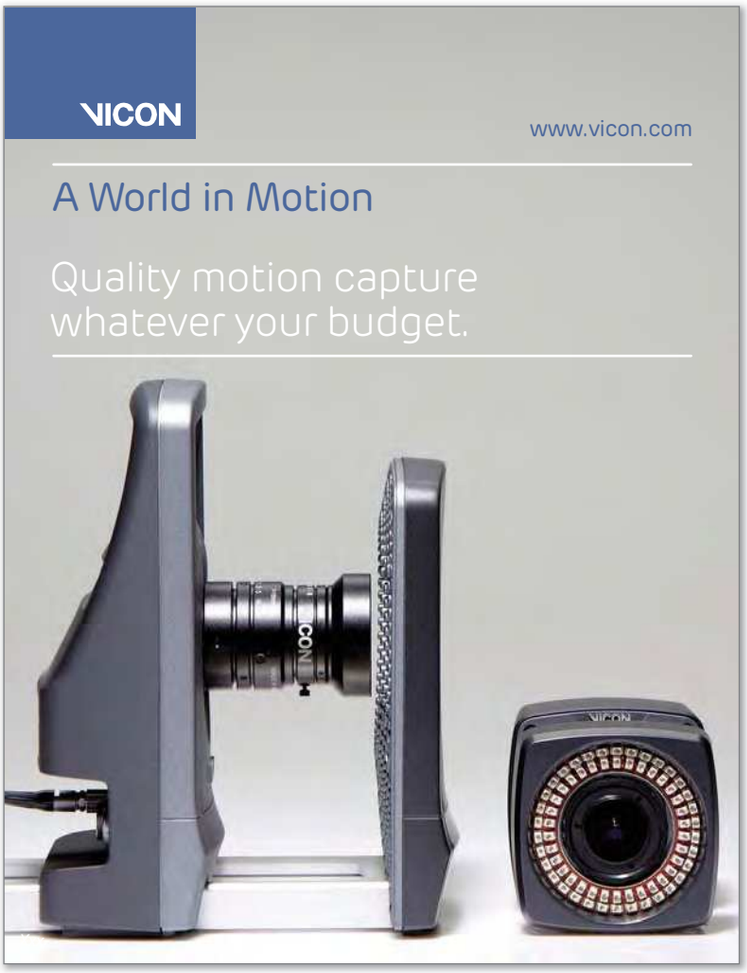
TGC is primarily targeting indies and hobbyist developers, but also expects to see a much wider spectrum of users making games with Reloaded. There are currently three pledge levels, each of which gives you access to the main software, the means to share your games and lifetime updates: Bronze (£16+VAT), Silver (£41+VAT) and Gold (£50+VAT). The latter, which is proving to be the most popular, includes extra model packs, monthly updates and the ability to save and sell games.

Following the beta release in November, Bamber says: "We've been blown away by the response at this early stage. There have been some problems for some users and we're now looking into those. The aim of the beta was to learn about system issues and performance."

At launch, FPS Creator Reloaded is planned to have Oculus Rift support, collaborative editing, easy importing of media and assets – such as sound, video and 3D objects – LUA-based scripting for AI and game events, and a built-in character creator and construction kit.

"We have one of the most passionate, creative and long-standing games-making communities around," says Bamber. "With lifetime updates for all pledgers, no royalty or licence restrictions when you sell your games, and a community eager to help and share their experiences, you won't find a better place to begin your game-making adventures. Community is what makes Reloaded different."

Vicon **www.vicon.com**



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TRAINING SPOTLIGHT

This month: **University of Central Lancashire**

UCLan runs a bachelors degree in video games design, focusing on drawing, digital modelling and game mechanics design

HAVING TAUGHT STUDENTS that have gone on to work at the likes of Naughty Dog and TT Fusion, the University of Central Lancashire's track record in games education is strong.

Bev Bush, course leader for BA (Hons) Games Design, has led UCLan's games programme for almost eight years, and has over a decade of experience in 3D modelling and animation.

"Our course is unusual in that it offers a combination of games design and game art, with an opportunity to specialise in year three, through the Honours module," Bush tells *Develop*.

The course covers three main areas of activity: drawing, digital modelling and game mechanics design. Students are taught sketching and to produce finished concept art for publication. Digital modelling aims to teach them game-specific requirements for developing digital assets. In mechanics design they are taught to think like games designers, coming up with scenarios and subjects for games, as well as detailing the all-important mechanics and rules that govern gameplay.

It should be noted that this course doesn't handle games programming, but its sister course, BSc (Hons) Computer Games Development, does.

Students are assessed throughout the year with grades based upon the submission of a folio at the end of each module. Each year contains six modules and there are no examinations. Assessment is instead based on portfolio submission.

The first year seeks to challenge students' attitudes to games. In the games design module, students tackle briefs on areas such as games narrative, marketing and engines. They make use of Kismet, the gameplay scripting tool for Unreal Engine 3, and observe how paper, board, non-conflict games and level design can influence their own design thinking.

In the second year, the course builds upon the skills and experience students have developed in year one. Main activity is still on design projects, but now there is more latitude and requirement for students to input their own ideas. And in the third and final year, students tackle three large projects intended to demonstrate and consolidate all their games design skills.

To facilitate students' game design visions, the course has access to many of the usual industry art and design tools, including Autodesk Maya, Adobe Creative Suite and UDK, along with access to other software packages through the university network.

It also provides access to books, graphics tablets, a variety of consoles, video games and board games, and flip video cameras for recording presentations along with two interactive touch smart boards. A small number of iPads, inklings and Cintiq graphics tablets are also available for student use.

> ***"Our course offers a combination of games design and art, with an opportunity to specialise."***
>
> Bev Bush, UCLan

UCLan works with a number of games industry firms including Sony, Traveller's Tales and Eureka. With the help of visiting lecturers, some of whom are returning graduates, and paid internships in the North West, UCLan aims to give its students a wide set of avenues into the industry.

Among its list of former students is Peter Field, who has worked at *Enslaved* developer Ninja Theory, *The Last of Us* outfit Naughty Dog, and is now at Media Molecule. Another is Aaron Foster, who spent time working as a 3D environment artist at Eurocom and has now started his own studio, Lunar Software, while Peter Bottomley has worked at TT Fusion, and has gone on to form indie dev White Paper Games.

"Our games course offers a dynamic and friendly creative environment where students are encouraged and inspired to play, learn and think creatively to reach their potential for employment in the industry," says Bush, who adds that UCLan is already building on its achievements.

"We've reached an exciting momentum with the games course, where staff and students work in harmony within a carefully planned course schedule and our alumni are proving very successful.

"Our combination of experienced staff and young, dynamic visiting professionals is excellent for student motivation. We aim to maintain the community atmosphere of the course, where students work hard in a relaxed and creative environment."

University of Central Lancashire
School of Art, Design & Performance
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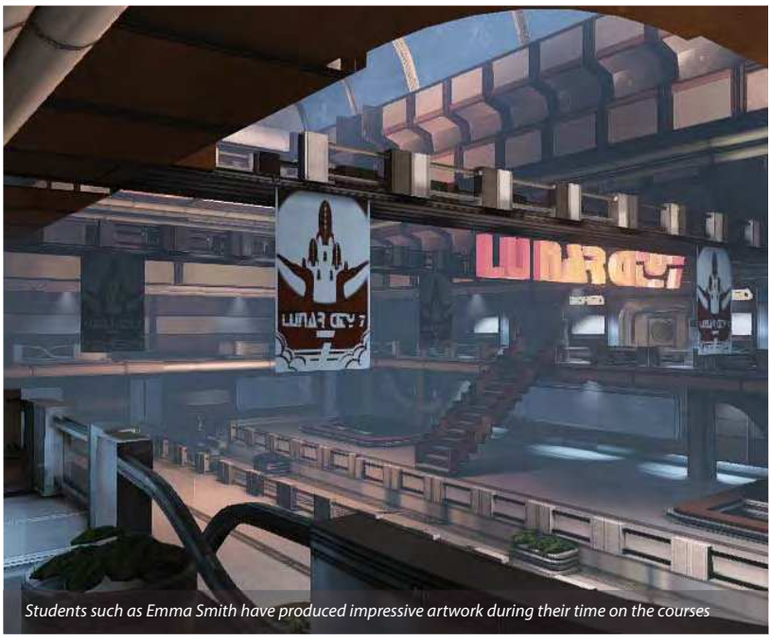
PR1 2HE

T: 017 7289 3348
E: abbush@uclan.ac.uk
W: www.gamescourse.blogspot.com

Games students at UCLan taking in some interactive learning

Bev Bush heads UCLan's Games Design degree

Alum Andrea Wastlund at the Creative Festive Prize



Students such as Emma Smith have produced impressive artwork during their time on the courses

develop FORWARD PLANNER

FEBRUARY 2014

RECRUITMENT SPECIAL
Our annual look at the jobs market includes advice for CVs, portfolios and interviews, guidance on promotions and more

SALARY SURVEY
We bring you the results of our most far reaching survey yet, and analyse how salaries are changing

IMMIGRATION AND LAW
What do studios need to be aware to hire from abroad? And what must UK developers consider before seeking new opportunities overseas?

REGION FOCUS: COLUMBIA

EVENT DISTRIBUTION
Casual Connect Europe, Amsterdam – February 11th to 13th

MARCH 2014

WHAT'S NEXT FOR MICROCONSOLES?
In the wake of GameStick, Ouya, Shield and the rest, experts cast an eye over what the opportunity 'non-soles' offer developers

GDC SURVIVAL GUIDE
Everything developers need to know about getting the most out of this year's Game Developers Conference, including a full schedule of panels and sessions, tips from show veterans and advice on how best to present your projects to new partners

REGION FOCUS: SCOTLAND

EVENT DISTRIBUTION
GDC, San Francisco – March 17th to 21st

APRIL 2014

GET YOUR GAMES ONTO NEXT-GEN
Speaking to Microsoft and Sony about how developers big and small can gain access to dev kits and other tools and services for the next-gen consoles

XBOX ONE VS PS4: DEVELOPERS' VERDICT
Studios discuss their experiences developing for each console, the strengths and weaknesses, which they prefer and what they want to see added in future

SELF-PUBLISHING
A look at the self-publishing options, present and future, on each console and the potential audience each one opens up

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THE FAQ PAGE: IMRE JELE

Develop grills respected figures from the global games industry

Who are you and what do you do?
I'm Imre Jele, I co-founded Bossa Studios with Roberta Lucca and Henrique Olifiers three years ago. I carry the fun and thoroughly confusing title of creator-in-chief. I'm also member of the BAFTA Games Committee.

What are you working on right now?
Multiple games actually. We're trying to figure out how to bring *Surgeon Simulator 2013* to touch devices, which is a tricky but very, very cool thing to do. We're also testing the prototype of *Time To Live*, a hilariously violent action game about the future's greatest bloodsport. And finally, I'm also working on a game I've been dreaming about forever. But it's super-secret...

What was the first video game or product that you ever worked on in the industry?
The first game-related payment I ever got was for an adventure I wrote for a national tabletop RPG competition. It got published and I was really confused when I got the money. It just didn't compute to me that you can get paid for making games. Not long afterwards, I started in the industry as a tester.

> ***"I remember spending an unreasonable amount of time and effort to sneak into our local pub to play Centipede on an arcade machine as a little kid."***

What was the first video game you ever played and did you enjoy it?
I remember spending an unreasonable amount of time and effort to sneak into our local pub to play *Centipede* on an arcade machine as a little kid. Every minute on it felt like a bite from a forbidden fruit. But the first memory I have playing a video game at home was *Manic Miner* on the ZX Spectrum.

What was the most recent video game you've played and did you enjoy it?
I play a lot of games for pleasure and research. But I have to say my most memorable experience in recent months was the remarkable *Brothers: A Tale of Two Sons*.

What is your favourite game ever, and for what reason?
Full Throttle. I have dear memories about so many games, but *Full Throttle* is one I've replayed the most over the years and I still enjoy it every time. Lately it's become more like a karaoke title - I know it so well I can say the lines along with the game.

How many hours a week do you spend playing video games?
I'd say it's about five to 20 hours, depending on how busy work gets.

What area of the industry do you think needs more investment?
I'd like to see more effort done to increase the diversity of our workforce. BAFTA and some other organisations do some great work, but there's still much to do to shed the "white male" stereotype of games developers.

What do you enjoy about the video games industry today?
It's amazing how accessible games are. Being able to get a game with a press of a button is fantastic. Not to mention how easy it is to tell a dev when I love their work on Twitter. If someone told me 20 years ago that I could interact with games and developers like this, it would have blown my mind.

What disappoints you about the video games industry today?
The constant drama and negativity. It seems a lot of people actively seek out a chance to be angry and destructive, instead of discussing our passion as a form of art. You can say 'that's the internet', but I believe it still is unacceptable. So often gaming news is degraded by tabloid-like headlines.

Of all the games you have worked on, which has been your favourite to work on?
Time To Live. I know it's cliché to name your latest game, but we've been playing this game internally for months and are still enjoying it. I really do like it and I have high hopes players will feel the same way.

What game that you were not involved with would you most liked to have worked on, and why?
The Last Express. That game was way ahead of its time with its dynamic storytelling and handling of time progression. And it's out on iOS, too.

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